MAR/FY06

LETTERKENNY ARMY DEPOT

Pennsylvania

Army Defense Environmental Restoration Program Installation Action Plan

Final 8 Sept 2006

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Statement of Purpose

The purpose of the BRAC Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions (RAs).

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Letterkenny Army Depot (LEAD), Army Materiel Command (AMC), US Army Aviation and Missile Command (AMCOM), Base Realignment and Closure (BRAC) Division, executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this IAP during a planning workshop held on 22-23 March 2006:

Company/Installation/Branch

AMCOM

Engineering and Environment, Inc (EEI) for USAEC

IERD/USAEC

LEAD - BRAC Environmental Coordinator

LEAD – Environmental Restoration, Army (ER,A) PM

Letterkenny Industrial Development Authority (LIDA)

Pennsylvania Department of Environmental Protection (PADEP)

Restoration Advisory Board (RAB) Co-Chair

US Army Corps of Engineers (USACE) Baltimore District

USAEC

US Environmental Protection Agency (USEPA) – Remedial Project Manager, SE Area

Acronyms

AA	Ammunition Area (not NPL listed)
AEDB-R	Army Environmental Database-Restoration
AMCOM	US Army Aviation and Missile Command
ARAR	Applicable or Relevant and Appropriate Requirements
AST	Aboveground Storage Tank
BRAC	Base Realignment and Closure
BTAG	Biological Technical Assistance Group
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CMS	Corrective Measures Study
COC	Contaminant of Concern
CS	Confirmatory Sampling
CS	Corson-Stoughton
cy	cubic yards
DA	Disposal Area
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	Design
DoD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
ER,A	Environmental Restoration, Army (formerly called DERA)
ESD	Explanation of Significant Differences
FFS	Focused Feasibility Study
FOSL	Finding Of Suitability To Lease
FOST	Finding Of Suitability To Transfer
FS	Feasibility Study
ft	feet
FTA	Fire Training Area
FY	Fiscal Year
Gpm	gallons per minute
GWAAP	Groundwater Assessment and Abatement Plan
GWTP	Groundwater Treatment Plant
HRS	Hazard Ranking System
HW	Hazardous Waste
IA	Installation Assessment
IAG	Interagency Agreement
IAP	Installation Action Plan
IC	Institutional Controls
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operation)
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
ISCO	In situ Chemical Oxidation
ISV	In situ Volatilization

Acronyms

IWTP	Industrial Wastewater Treatment Plant
IWWS	Industrial Waste Water Sewer
LEAD	Letterkenny Army Depot
LIDA	Letterkenny Industrial Development Authority
LTM	Long-term Management
LT3	Low Temperature Thermal Treatment
MCL	Maximum Contaminant Level
MNA	Monitored Natural Attenuation
MSL	Mean Sea Level
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NSIA	Northern Southeast Industrial Area
OBP	Oil Burn Pit
OU	Operable Unit
PA	Preliminary Assessment
PA / SI	Preliminary Assessment / Site Inspection
PADEP	Pennsylvania Department of Environmental Protection
PAH	Polyaromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PDO	Property Disposal Office (the second area of LEAD placed on the NPL)
POL	Petroleum, Oil & Lubricants
POM	Program Objective Memorandum
PP	Proposed Plan
ppm	parts per million
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	Cyclotrimethylenetrinitramine
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
REM	Removal
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
S&A	Supervision and Administration
SE	Southeastern Area (the first area of LEAD placed on the NPL)
SI	Site Investigation
SIA	Southeast Industrial Area
SSIA	Southern Southeast Industrial Area
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
SWQS	Surface Water Quality Standards

TAPP	Technical Assistance for Public Participation
TBR	Transfer Burning Revetments
TCA	Trichloroethane
TCE	Trichloroethene
TMDE	Testing Measurements Diagnostic and Engineering
TNT	Trinitrotoluene
TOSA	Truck Open Storage Area
TRC	Technical Review Committee
ug/L	micrograms per liter
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center
USATHAMA	United States Army Toxic and Hazardous Material Agency (currently called USAEC)
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

Comprehensive Environmental Response, Compensation and Liability (CERCLA) and Resource Conservation and Recovery Act (RCRA) Underground Storage Tank (UST) Acronym Conversions

CERCLA		RCRA UST
Preliminary Assessment (PA)	=	Initial Site Characterization (ISC)
Remedial Investigation (RI)	=	Investigation (INV)
Feasibility Study (FS)	=	Corrective Action Plan (CAP)
Remedial Design (RD)	=	Design (DES)
Remedial Action (Construction) (RA(C))	=	Implementation (Construction) (IMP(C))
Remedial Action (Operation) (RA(O))	=	Implementation (Operations) (IMP(O))
Long-term Management (LTM)	=	Long-term Management (LTM)
Interim Remedial Action (IRA)	=	Interim Remedial Action (IRA)

Installation Information

Installation Locale: LEAD is located in the central portion of Franklin County, PA, five miles north of Chambersburg, 30 miles west of Gettysburg, PA. The installation originally covered 7,791 hectares (19,243 acres, 1450 acres are to be excessed through BRAC), situated on the western side of the Cumberland Valley that is characterized by gently rolling terrain underlain by folded and faulted geologic formations. A total of 761 acres has already been transferred under Phases I, II and III of BRAC. BRAC Phase IV expected transfer will include a total of 60 acres. In addition the Letterkenny Reservoir, which comprises 129 acres, has also been transferred as part of a utilities privatization initiative.

NOTE: As the Final FY 06 IAP was going to print, due to mission changes and force protection issues the Army has entered into negotiations with the Letterkenny Industrial Development Authority to retain/reacquire 240 acres of previously declared excess property under BRAC 95. The 240 acres comprise portions of the Phase II, IV, VI, VII, and VIII transfers. The final results of these negotiations will be reflected in the FY 08 IAP environmental cleanup strategies.

Installation Mission: LEAD was established in 1942 with the primary mission of ammunition storage. Today Letterkenny's mission is to provide the Army and other armed forces with worldwide, reliable, responsive, and cost-effective depot level maintenance, field support, systems integrations, and product support integration for weapon systems, components, and ancillary equipment to ensure the readiness, sustainability, and safety of these forces during the full spectrum of operational environments.

Lead Organization: AMC

Lead Executing Agency: USACE, Baltimore District

Regulatory Participation
Federal: USEPA Region III, Federal Facilities Section
State: PADEP, Environmental Cleanup Program

National Priorities List (NPL) Status
Two NPL Sites on Installation (covered by Interagency Agreement [IAG]):

- Southeastern Area (SE) Hazard Ranking System (HRS) Score: 34.21 (Comprised of the SIA and the Disposal Area [DA])
- Property Disposal Office Area (PDO) HRS Score: 37.51

NOTE: Portions of both NPL sites are located on both retained and BRAC property. CERCLA investigation planned in the AA (non-NPL)

Projected Dates for NPL Construction Completion: 201601

Projected Date for NPL Removal: 2034

Installation RAB/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status: The LEAD TRC was formed in 1988 to help keep the local community informed of the environmental cleanup efforts at LEAD and to provide a forum for cooperation between the depot and concerned local officials and citizens. The TRC membership represented a cross section of the community as well as Army and regulatory agencies. The TRC met several times a year to discuss ongoing and planned cleanup activities.

In May 1996, the LEAD TRC was expanded into a new citizen-government advisory panel called a RAB. Department of Defense (DoD) guidance states that a RAB must be established at all installations slated for downsizing or closure where property will be turned over to the local community under the BRAC process. A RAB is a citizen/government panel intended to bring together people who reflect the diverse interests within the community. The RAB members participate in the process by reviewing cleanup plans, exchanging information and ideas, and providing advice to government decision makers on environmental issues facing Letterkenny.
The RAB meetings are currently held quarterly at 7:00 p.m. in LEAD Building 14. All RAB meetings are open to the public. The RAB has 14 members who are kept posted by articles in local newspapers and given access to all remediation reports. At this time the existing RAB members are not interested in participating in the TAPP program.

In 2006 the Community Relations plan will be updated.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Volatile organic compounds (VOCs), Metals, Polychlorinated biphenyls (PCBs), POL, Pesticides, Semi-volatile organic compounds (SVOCs), Dioxins. Explosives are only a contaminant of concern (COC) in the AA.
Affected Media of Concern: Groundwater, Surface Water, Soil, Sediment
Estimated Date for Remedy in Place (RIP)/Response Complete (RC): 2010/2013
Funding to Date (up to FY05): $115,467.1K (Active + BRAC)
Current Year Funding (FY06): $1,317K
Cost-to-Complete (FY07+): $11,257K

BRAC

Primary Contaminants of Concern: VOCs, Metals, PCBs, POL, SVOCs, Dioxins, Pesticides
Affected Media of Concern: Groundwater, Soil
Estimated Date for RIP/RC: 2010/2015
Funding to Date (up to FY05): $115,467.1K (Active + BRAC)
Current Year Funding (FY06): $557K
Cost-to-Complete (FY07+): $893K

Transfer Summary

Total Installation Acres: 19,243.00

BRAC Acres: 1,450.00

Parcel Name: Parcel Phase I
Recipient Organization: LIDA
Acres: 233.0
Transfer strategy: Transfer outside of Federal Government
Current land use: industrial, commercial
Future land use: industrial, commercial
Transfer date: 19990115

Parcel Name: Parcel Phase II
Recipient Organization: LIDA
Acres: 327.0
Transfer strategy: Transfer outside of Federal Government
Current land use: industrial, commercial, residential
Future land use: industrial, commercial
Transfer date: 20020503

Parcel Name: Parcel Phase III
Recipient Organization: LIDA
Acres: 201.0
Transfer strategy: Transfer outside of Federal Government
Current land use: industrial, commercial
Future land use: industrial, commercial
Transfer date: 20040129

Parcel Name: Parcel Phase IV
Recipient Organization: LIDA
Acres: 60.0
Transfer strategy: Transfer outside of Federal Government
Current land use: industrial, commercial, residential
Future land use: industrial, commercial
Transfer date: 200612

Parcel Name: Parcel Phase V
Recipient Organization: LIDA
Acres: 105.0
Transfer strategy: Transfer outside of Federal Government
Current land use: industrial, commercial
Future land use: industrial, commercial
Transfer date: 200709

Transfer Summary

Parcel Name: Parcel Phase VI
Recipient Organization: LIDA
Acres: 385.0
Transfer strategy: Transfer outside of Federal Government
Current land use: residential, industrial, commercial, recreational
Future land use: residential, industrial, commercial, recreational
Transfer date: 200908

Parcel Name: Parcel Phase VII
Recipient Organization: LIDA
Acres: 40.0
Transfer strategy: Transfer outside of Federal Government
Current land use: industrial, commercial
Future land use: industrial, commercial
Transfer date: 200906

Parcel Name: Parcel Phase VIII
Recipient Organization: LIDA
Acres: 15.0
Transfer strategy: Transfer outside of Federal Government
Current land use: industrial, commercial
Future land use: industrial, commercial
Transfer date: 200908

Installation Historic Activity

LEAD was established in 1942 with the primary mission of ammunition storage. However, principal activities at LEAD have also included: (1) overhauling, rebuilding, and testing of wheeled vehicles; (2) issuance and shipment of industrial chemicals and petroleum; and (3) storage, maintenance, demilitarization, and modification of ammunition. Operations conducted at LEAD, in conjunction with prior and current missions, have included cleaning and stripping, plating, lubrication, demolition, chemical and petroleum transfer and storage, and washout/deactivation of ammunition. Several of these activities involved the use of significant quantities of chlorinated hydrocarbons, solvents and POL. Machining/plating/painting operations produced metallic residues that were disposed of on site.

The AA occupies the majority of land at LEAD and is used for the maintenance and storage of ammunition. The SIA is used for depot maintenance, field support, systems integration and product support integration.

LEAD is located in the Great Valley section of the Valley and Ridge physiographic province. This area, known locally as the Cumberland Valley, extends northeast to southwest across central Pennsylvania.

LEAD straddles two major structural features, the South Mountain anticlinorium to the east and the Massanutten synclinorium to the west. The five formations occurring at LEAD are a shale formation known as the Martinsburg Formation (which is not karstic), the limestone formations are the Chambersburg Formation and the St. Paul Group, the limestones and dolomites of the Rockdale Run Formation, and the dolomites of the Pinesburg Station Formation. These geologic formations are karstic, fractured and deformed to varying extents from past geologic activity.

The geologic units and their associated deformational features control the direction and rate of groundwater movement at LEAD. The potentiometric surface reflects the topography in a subdued manner, creating groundwater divides and basins coincident with the topography and surface water divides and basins. The PDO Area is cut by two major fault structures (the Letterkenny Fault and the Pinola Fault) and at least two unnamed faults.

Current Activity

As the ***Center of Industrial and Technical Excellence for Air Defense and Tactical Missile Systems and the Center of Industrial and Technical Excellence for Power Generation Equipment***, Letterkenny continues a tradition of supporting our soldiers and our Army for more than 60 years. Letterkenny has unique tactical missile repair capabilities repairing a variety of Defense Department missile systems including the PATRIOT Missile and its ground support and radar equipment. Most recently, Letterkenny has expanded its product line to include overhauling of tactical wheeled vehicles, material handling equipment (7.5 Ton Cranes), and Mobile Kitchen Trailers.

Comprising over 17,500 acres, a large land portion of the depot is used to conduct maintenance, modification, storage and demilitarization operations on tactical missiles

and ammunition. On occasion, Letterkenny can partner with industry allowing the advantage of our unique capabilities and skills. Letterkenny remains among the top three employers in Franklin County fueling an economic engine that propels over 1/4 billion dollars annually into the region through payroll, contracts and retiree annuities.

LEAD is under the command structure of The US Army Aviation and Missile Command AMCOM. Letterkenny is a government owned, government operated installation.

Located in south central Pennsylvania, Letterkenny provides easy access to seaports, air travel and major highways.

Letterkenny has strengthened its technological development by initiating partnerships with Penn State University's Applied Research Laboratory, Shippensburg University Geography - Earth Science Department and the Applied Technology Center at Hagerstown Community College.

Letterkenny supports the growth and development of the local community through its active participation in community planning. Local community planning groups include: The Chambersburg Area Development Corporation, Franklin County Area Development Corporation, Chambersburg 2000 Partnership, and the LRA. The IRP efforts at LEAD were initiated in 1978, when an Installation Assessment (IA) was performed. Past operations and practices at LEAD have resulted in the generation of various types of contaminants and their disposal or release across the installation. Solvents, heavy metals, petroleum hydrocarbons, and PCBs are the primary contaminants of concern. LEAD has signed agreements with the federal and state regulators and has established a procedural framework to implement and monitor appropriate response actions at the facility in accordance with CERCLA, the National Contingency Plan, Superfund guidance and policy, RCRA guidance and policy, and state statutes. LEAD has entered into a partnership with all stakeholders in the restoration and cleanup of environmental responsibilities from past operations.

LEAD’s IRP program objects are:

- To take a management approach that is strongly geared toward incorporating the opinions of all parties in the decision-making process; therefore, LEAD achieves a consensus before initiating any actions.

- Community relations activities at LEAD include public meetings, review and coordination meetings with federal and state regulatory personnel, site visits,

- Meetings with elected officials and community groups, news releases to the local media, and direct contact with nearby property owners.

- Partnering to maximize use of limited resources. LEAD partnered with regulatory agencies and community representatives, guiding the team through complicated negotiations and groundbreaking regulatory and technical issues

- Innovative technologies are being used in an attempt to streamline and determine the most cost-effective method for cleanup. Information from such pilots and projects are posted on LEAD's environmental Web site for dissemination to the regulators, RAB members, and the community in an effort to share lessons learned.

LEAD supports local small businesses through a variety of different efforts which are local construction companies (3), local drillers (2), surveyors (3), nearby local stores for supplies, and local hotels for lodging. The majority of our contractors are headquartered in Pennsylvania.

Regulatory Status
Two NPL Sites on Installation (covered by IAG):
- SE HRS Score: 34.21 (Comprised of the SIA and the DA) in 1987 (Federal Facilities List)
- PDO HRS Score: 37.51 in 1989 (Federal Facilities List)

NOTE: Portions of both NPL sites are located on both Installation and BRAC property. CERCLA investigation planned in the AA (non-NPL)

Reasons for NPL inclusion
SE AREA - Groundwater beneath the SIA of the depot, as well as beneath an off-depot area of approximately 4,000 acres, extending at least two miles to the east, is contaminated with chlorinated organic chemicals. Soil on the installation has been found to be contaminated with chlorinated organic chemicals, including VOCs. Individuals may be at risk if they accidentally ingest, inhale vapors, or come in direct contact with contaminated groundwater or soil, or consume fish from contaminated areas. Additional residential wells could become contaminated.

PDO AREA - According to tests conducted by the Army, groundwater beneath the PDO Area and PDO Area surface water, including Rocky Spring Lake, are contaminated with low levels of chlorinated organic chemicals including trichloroethylene (TCE) and PCBs. Soils have been contaminated by xylene, heavy metals, chloroform, and other VOCs. Residential wells are not known to be impacted by this site, but could be threatened.

Individuals may be at risk if they accidentally ingest, inhale, or come in direct contact with contaminated groundwater or soil, or consume fish from contaminated areas. Additional residential wells could become contaminated.

Operations conducted at LEAD, in conjunction with prior and current missions, have included cleaning and stripping, plating, lubrication, demolition, chemical and petroleum transfer and storage, and washout/deactivation of ammunition. Several of these activities involved the use of significant quantities of chlorinated hydrocarbons, solvents and POL. Machining/plating/painting operations produced metallic residues that were disposed of on site.

For the SE Area: VOC contaminated groundwater reaching Offpost

For the PDO Area: VOC contaminated groundwater and surface Water (Rocky Spring Lake)

IRP

- Prior Year Progress: Continued Remedial Investigations (RIs) for PDO OU 2, 5. Record of Decisions (RODs) signed for SE OU 4.
- Future Plan of Action: Complete Focused Feasibility Study (FFS) for SE OU 3 & 11. ROD signed for SE OU 9. SE OU 2 ROD is expected to be signed spring 2006.

BRAC

- Prior Year Progress: Completed RI/RA for Combat Vehicle Test Track, LEAD-016; Former Vehicle Open Storage Area, LEAD-114; and Tank Farm, LEAD-115. Completed Phase IV FS and Proposed Plan (PP). Completed SE OU 10 PP. Phase IV ROD and SE OU 10 ROD underwent regulatory review. Continued RIs for PDO OU 6.
- Future Plan of Action: Presently 761 acres have been transferred through three phases of property transfer: 1998, 2002, and 2004. Another 256 acres are currently under a lease in furtherance of conveyance. Three or four more phases of property are anticipated to complete transfer of all remaining acres once groundwater remedies are in place. Phase IV (60 acres) is scheduled for 1st quarter FY 07. Phase V (104 acres) is scheduled for 1st quarter FY 08. Phase VI (374 acres) is scheduled for December 2008. Phase VII (40 acres) is scheduled for June 2009. **(NOTE: Phases IV, VI, and VII acreages are subject to change – see Page 11.)** SE OU 10 is a BRAC OU (Remedial Action Work Plan is draft). Complete BRAC RI/FS for PDO OU 4, 6 and SE OU 8. Complete Phase IV Transfer in FY07 and Phase V transfer in FY08.

LETTERKENNY ARMY DEPOT

Installation Restoration Program

IRP Summary

Total Army Environmental Database-Restoration (AEDB-R) Sites/RC Sites: 70/60

Different Site Types

4 Burn Areas
1 Fire/Crash Training Area
18 Contaminated Groundwater
3 Contaminated Sediments
2 Surface Disposal Areas
1 Disposal Pit/Dry Well
1 Dip Tank
1 Industrial Discharge
1 Incinerator
11 Landfills
1 Pesticide Shop
1 Washrack
8 Storage Areas
1 Storm Drain
1 Surface Impoundment/Lagoon
1 Plating Shop
5 Spill Site Areas
1 UST
1 Waste Line
3 Waste Treatment Plants
3 Explosive Ordnance Disposal Areas
1 Unexploded Munitions/Ordnance

Most Widespread Contaminants of Concern:

VOCs, SVOCs, Metals, PCBs, POL, Explosives, Dioxins

Media of Concern: Groundwater, Surface Water, Soil, Sediment

Completed Removal (REM)/Interim Removal Action (IRA)/RA:

- RA - FY99 LEAD-106 DRMO Scrapyard - PCB Cleanup and Tear Gas Investigation
- RA - FY01 LEAD-036 Landfill J - Removal Action
- IRA – LEAD-074, 083, 105
- RA(C) – LEAD-052

Total IRP Funding

Prior years (up to FY05):	$	115,467.1K (Active + BRAC)
Current Year Funding (FY06).....	$	1,317.0K
Future Requirements (FY07+): ...	$	11,257.0K
Total:	**$**	**128,041.1K**

Duration of IRP

Year of IRP Inception: 1979
Year of IRP RIP/RC: 2010/2013
Year of IRP Completion including Long-Term Management (LTM): 2041

IRP Contamination Assessment

IRP Contamination Assessment Overview

Based on findings presented in the IA report (US Army Toxic and Hazardous Material Agency [USATHAMA], 1980), it was concluded that the materials associated with LEAD activities, past disposal practices, and the complex nature of the hydrogeologic regime offered significant potential for environmental contamination and contaminant migration.

In 1983, volatile organic hydrocarbon contamination of groundwater was confirmed in the SE.

In July of 1987, the SE of LEAD was listed on the NPL (with a HRS Score of 34.21). In March of 1989, the PDO Area at LEAD was added to the NPL list of federal facilities (with a HRS Score of 37.51). On Feb. 3, 1989, a Federal Facility Interagency Agreement (IAG) was signed, which laid the groundwork for the CERCLA and RCRA actions at LEAD. A comprehensive RI was produced for each site. USEPA is the lead regulator at LEAD for CERCLA response actions. PADEP signed the IAG due to the RCRA-regulated closure of the Industrial Wastewater Treatment Plant (IWTP) lagoons. The IAG divided LEAD into three areas for the purpose of environmental investigation:

- SE is composed of the SIA and the DA
- PDO Area
- AA

The SE Area and the PDO Area are NPL sites. ***(See SE -PDO Divide map in this section)*** The AA is used for the storage, repair, testing, and disposal of ammunition.

LEAD is currently conducting RI/Risk Assessments under the authority of CERCLA.

Total VOCs at concentrations greater than 100 micrograms per liter (ug/L) were found in groundwater at the LEAD boundary near the DA, with the predominant contaminant being 1, 1, dichloroethane. Results indicated that contaminants had crossed the LEAD boundary east of the DA and north of Gate 6. The Army has provided an alternative water supply in 1983-84 where required.

In 1984, it was determined that the DA area contained at least six major areas of VOC contamination and/or high levels of heavy metals. These areas exhibited volatile organic constituents in excess of 100 parts per million (PPM). Three of these areas were confirmed to have volatile organic contamination of the groundwater.

In 1983, volatile chlorinated hydrocarbons were found at significant concentrations in groundwater, stream sediments, and soil in the PDO. VOC groundwater contamination was estimated to extend approximately three miles from the oil-burn pit to Rocky Spring Lake. Rocky Spring was identified as the major discharge point of the VOC contaminated groundwater in the PDO drainage area. In 1986, another study confirmed that Rocky Spring is the single discharge point of all contaminated groundwater in the PDO drainage area. This study also found that low levels of VOCs were migrating off-post via surface water discharged from Rocky Spring Lake.

In 1995, during an attempt to fill the PDO oil burn pit (OBP) to grade a black oily sludge was observed to ooze from the bottom of the pit. The fill operation was halted and the side of the OBP was cut down to allow a boring rig access to the site. Two soil borings indicated high levels of trichloroethane (TCA) underneath the OBP area. A high density liner was placed over this site as an emergency stabilization measure. During 1996, a decision was made to do an emergency delineation and subsequent removal at the OBP. Delineation borings and geotechnical borings were completed in August of 1996 with a removal soon to follow after finalization of analytical results. Inclement winter weather prevented the removal in 1996. RAs proceeded during the 1997 and 1998 time periods. In situ hydrogen peroxide was used to destroy the remaining free product at the OBP. A FS is currently underway to determine if any future action is required. This site (PDO OU 4) is being addressed under the BRAC program.

The groundwater underneath the PDO is contaminated with VOCs above applicable or relevant and appropriate requirements (ARARs). The RI concluded that no PDO VOC-contaminated groundwater bypasses Rocky Spring Lake. Occasionally, the surface water leaving LEAD has exceeded ARARs for VOCs. In 1991, two surface water mercury detections from Rocky Spring Lake were above surface water standards. A sampling program was initiated that involved the bi-monthly collection of surface water, algae, and fish from Rocky Spring Lake. The Army developed a method to detect mercury down to .05 parts per billion in water and tissue. Soil samples, surface water and groundwater samples, were collected from the site. In June of 1995, the Army published the final version of the *Addendum To The Remedial Investigation of the Property Disposal Office Area (Operable Units One and Two) At Letterkenny Army Depot Mercury Detections in Rocky Spring Lake*. This addendum concluded that the 1991 detections of mercury in Rocky Spring Lake were a result of the following:

Due to the severe drought of 1991, the water level in the lake dropped below that of the spillway. The only exit point of water from the lake was from the control structure in the dam. Rocky Spring Lake has always had an over abundance of nutrients in it. Every year there are algae blooms in the summer.

During periods of normal lake levels, a large amount of algae is removed from the lake when water flows over the spillway. During the 1991 drought, algae were not removed from the lake by surface flow over the spillway. When the algae died in late summer, large amounts of mercury were released. The 1992 investigation documented that the algae contained approximately 10^6 times as much mercury as the surface water. ***(See GW OUs map in this section)***

Description of Major IRP Concerns

SE OU 3A – groundwater contamination addresses on-post VOC contamination (LEAD-081). This Operable Unit (OU) has been broken down into two sections based on SE groundwater divides: 3A (Active), the DA; and 3B (BRAC), the Groundwater Up-gradient of the SE. There are other areas in the SE Area that are being handled under BRAC.

VOC-contaminated groundwater from this area discharges into six springs located approximately two miles off-post. Rowe Spring, Helman Upstream, Helman Downstream, and Witmer Spring are the primary receptors.

SE OU 11 was developed to address the lagoon area, which is a different source from the DA area. In the DA, 15,000 cy of VOC-contaminated soil were removed without visible effect on groundwater quality (K Area). The majority of the contamination still remains in the bedrock matrix. A peroxide injection pilot study was completed in July 1999. Earlier pilot studies of recirculation and in situ stripping were not as effective as the peroxide injection. Groundwater at this site impacts property potentially identified for early transfer under BRAC.

SE OU 6 - Various activities and past practices at LEAD have contaminated the SE on and off-post groundwater with VOCs. SE OU 6 was created in 1993 to address the off-post groundwater. On-post groundwater is addressed by SE OU 3A & 3B. The two are intimately linked. **Rowe Run Drainage:** The former IWTP Lagoons (LEAD-013) were closed under RCRA. As required by Pennsylvania State Law (RCRA), a Groundwater Assessment and Abatement Plan (GWAAP) were prepared. The Draft GWAAP recommended the following response actions:

1. Groundwater monitoring
2. Source soils removal
3. Groundwater treatment
4. Treatment of Rowe Spring (off-post)

By 1993, the Army had completed items 1 through 3. In 1993, a flow study of Rowe Spring (LEAD-068) commenced. A series of stream monitoring stations were installed above and below Rowe Spring to accurately measure spring flow. A final (99% confidence interval) flow of 1,680 gallons per minute (gpm) has been established for Rowe Spring. Helman (LEAD-086), Helman East (LEAD-087), and Witmer Spring (LEAD-088) contribute another 1,600 gpm. Nelson Spring (LEAD-096) and Nelson Spring East (LEAD-104) are ephemeral springs that contribute up to 200 gpm in periods of high groundwater. A Conceptual Design for the Rowe Spring Groundwater Treatment Plant was produced in June 1996. Property acquisition was completed in 1998. A final design was produced in 1999. A pilot study using micro bubble in situ stripping was completed in June of 2000.

SE OU 11- The original unlined lagoon was constructed in 1954 and operated until 1967. The lagoon was used as a settling/equalization basin for the IWTP. Over time, this process led to the generation of a sludge layer in the lagoon. Releases of sludge and untreated wastes from the unlined lagoon had been occurring for an unspecified time. In 1967, a concrete-lined, two-cell lagoon was built over the existing bare earth lagoon. In 1992, the soil in the lagoon area was excavated and treated. The groundwater below the lagoon area is contaminated with VOCs. This on-post VOC-

contaminated groundwater migrates off-post (see SE OU 6) and discharges eventually into Rowe Spring. In the Northern Southeast Industrial Area (NSIA) (lagoon), 30,000 cy of VOC-contaminated soil were removed to bedrock, treated with low temperature thermal treatment (LT3) technology and returned where contamination still persists. A pilot (aqueous ozone injection) study was completed in November 1999, and did not prove to be effective. The most common VOCs in the lagoon area are: chloroform, 1,2-dichloroethane, 1,1- dichloroethene, cis-, trans- 1,2- dichloroethene, methylene chloride, trichloroethene, and vinyl chloride.

A pilot study was completed in the winter of 2001 to determine the feasibility of remediating VOCs in the groundwater at the lagoons using in situ chemical oxidation (i.e., peroxone). The remedial strategy that was pilot-tested is based on in situ treatment of the VOC contaminated source bedrock with pressurized O_3. The pressurized O_3 increased the concentration of oxidant at the bedrock surface. Active remediation (i.e., oxidant introduction) would occur over a period of approximately three years. The oxidant distribution system is designed to place the oxidant solution specifically in the portions of the aquifer where groundwater passing through comes in contact with the aquifer matrix. This potential treatment alternative will be evaluated along with other alternatives in the FFS scheduled for 2007.

IRP Cleanup Exit Strategy

End Point Criteria: SE OU 11

The FFS will develop technical feasibility limits that will be used to identify points of compliance and what remedial actions are technically feasible.

The pressurized O_3 injection program would be implemented until either three years of full-scale continuous treatment (including rebound monitoring) are completed or TCE concentrations at well 95-NSIA-4 stabilize at or below 867 µg/L. Based on concentration versus distance plots it is surmised that achieving the 867 ug/L concentration at well 95-NSIA-4 will achieve a TCE concentration at Rowe Spring meeting the surface water quality standard (SWQS) criteria of 2.7 ug/L.

At the point in time when concentrations of TCE decline and remain below the human health SWQS of 2.7 µg/L at Rowe Spring for four successive semi-annual sampling events, the surface water sampling program would be discontinued.

At the point in time when VOC concentrations in wells 89-2, 89-4 and 93-5 decline and remain below their respective maximum contaminant levels (MCLs), and there are no ARAR exceedances in the six residential wells downgradient of Witmer Spring for four successive semi-annual sampling events, the semi-annual groundwater sampling of on-post and off-post wells would be discontinued.

End Point Criteria: SE OU 3A: The FFS will develop technical feasibility limits that will be used to identify points of compliance and what remedial actions are technically feasible.

The ISCO (In situ Chemical Oxidation) program would be implemented until either 3 full-scale applications are completed or TCE concentrations at well 96-DA-4 stabilize at or below 77 µg/L. Based on concentration versus distance plots it is surmised that achieving the 77 µg/L concentration at well 96-DA-4 will achieve a TCE concentration at Rowe Spring meeting the SWQ criteria of 2.7 µg/L.

At the point in time when concentrations of TCE decline and remain below the human health SWQS of 2.7 µg/L at Rowe Spring for four successive semi-annual sampling events, the surface water sampling program would be discontinued.

At the point in time when VOC concentrations in wells 96-DA-4, 82-1, 93-6 decline and remain below their respective MCLs and there are no ARAR exceedances in the six residential wells downgradient of Witmer Spring for four successive semi-annual sampling events, the semi-annual groundwater sampling of on-post and off-post wells would be discontinued.

Previous Studies

1980
- Installation Assessment of LEAD, LEAD, USATHAMA, 01/80

1981
- LEAD Groundwater Contamination, Groundwater, SE, PDO, SE, PDO, Berger Associates, 02/01/81
- Hazardous Waste Management Evaluation No. 37-26-0171-82, Waste Disposal/Sites, AEHA,11/81

1982
- Solid Waste Disposal Study LEAD, Waste Disposal/Sites, USAEHA, 09/14/82

1983
- Eng. Report Study of Hazardous Discharges, LEAD, Waste Disposal/Sites, Mason and Hanger, 8/83
- Environmental Contamination Survey of LEAD SE Industrial Area, Waste Disposal/Sites, SE, SE AREA - DEPOT, Battelle, Pacific Northwest Laboratories, 09/83
- Environmental Contamination Survey, Waste Disposal/Sites, Battelle, Pacific Northwest Laboratories, 10/01/83
- Env. Cont. Survey, Exploratory, Confirmatory Phases, Waste Disposal/Sites, Battelle, Pacific Northwest Laboratories, 12/07/83

1984
- LEAD Remedial Investigation Feasibility Study, SE Area, Roy F. Weston, 02/01/84
- Env. Cont. Survey of LEAD Multiphase Investigation Summary, LEAD, Battelle, 05/01/84

1986
- Env. Contam. Monitoring at LEAD Final Report AOOA, PDO/SE Areas, Env. Science and Engineering, Inc., 01/13/86
- Pilot Investigation of Low Temp. Thermal Stripping of VOCs From Soil, Soil, Roy F. Weston Inc, 06/01/86
- Remedial Investigation of the Disposal Area Final Report A00A, SE Area, Env. Science and Engineering, 08/86
- GW at Open Burning/Open Detonation Facilities (AEHA#38-26-045-86), Groundwater, PDO 4, AMMO, 10, 46, 53, Army (AEHA), 1986

1987
- Eval. of Report Solid Waste Management Units, LEAD, SI, AEHA, 2/87
- Geophysical Investigation of IWTP Area, Sites E and F, IWTP Lagoons, SE OU 11, 13, 131, Env. Science and Engineering, Inc., 05/01/87
- Geophysical Investigation of the Eastern Boundary, Vol. 1, SE Area, Env. Science and Engineering, Inc., 05/01/87

1987, continued

- Field Investigation Report for Bldg. 1N Sump Pit, LEAD Buildings, EA Engineering, Science, and Technology, 06/05/87
- Remedial Investigation of the Property Disposal Office (PDO) Area, PDO Area, PDO, PDO AREA - Depot, Env. Science and Engineering, Inc., 9/87
- Remedial Investigation of the Southeastern (SE) Area, SE Area, SE, SE AREA – DEPOT, Env. Science and Engineering, Inc., 12/01/87
- LEAD RCRA Monitoring Well Data (1987-1989), Groundwater, LEAD, 1987

1988

- Endangerment Assessment of the Property Disposal Office Area, PDO Area, PD , PDO AREA - Depot, Env. Science and Engineering, Inc., 02/01/88
- RCRA Facility Assessment Phase I (SWMU Units), RCRA, A.T. Kearney, Inc. The Earth Technology Corp., 02/88
- RCRA Facility Assessment Phase II (SWMU Units), RCRA, A.T. Kearney, Inc. The Earth Technology Corp., 04/05/88
- Feasibility Study of the Property Disposal Office Area, PDO Area, PDO, PDO AREA – Depot, Env. Science and Engineering, Inc., 06/01/88
- Industrial Waste Treatment Plant Lagoon Closure, IWTP Lagoons, SE 11, 13, 131, US Army Corps of Engineers, 06/88
- Building 1 Chromium Contamination Investigation QA/QC Plan, LEAD Buildings, Roy F. Weston, Inc., 07/88
- Draft Groundwater Quality Assessment and Abatement Program, Groundwater, SE 3, SE 6, PDO 2, PDO 4, Env. Science and Engineering, Inc., 07/88
- Endangerment Assessment of the Southeastern (SE) Area, SE Area, SE, SE AREA – DEPOT, Env. Science and Engineering, Inc., 09/01/88
- Feasibility Study of the Southeastern Area 1st Operable Unit, SE OU 1, 3: K Area, SE Groundwater, SE 1, 52, Env. Science and Engineering, Inc., 09/01/88

1989

- LEAD Federal Facilities Interagency Agreement, LEAD, IAG, DEPOT WIDE, LEAD, PADER, EPA, 02/03/89
- Building 1 Chromium Contamination Investigation Report, LEAD Buildings, Roy F. Weston, Inc., 03/89
- GWQA Work Element Rationale & Assumptions, Groundwater, Hunter/ESE, 03/30/89
- Feasibility Study of Southeastern Area 2nd Operable Unit Volume 1, SE Area, SE 2, 74, 83, Hunter/ESE, 05/01/89
- Feasibility Study of Southeastern Area 2nd Operable Unit Volume 2, SE Area, SE 2, 74, 83, Hunter/ESE, 05/01/89
- Work Plan-IWTP Lagoon Closure, IWTP Lagoons, SE 11, 13, 131, Associated Chemical & Env. Services, 05/05/89
- Groundwater Treatment System, GWTS, SE 11, 13, 131, CarbonAir Services, 05/18/89
- IAG Progress Reports (1989), LEAD, IAG, DEPOT, LEAD, 1989
- NPDES Part 1 Permit Application Groundwater Treatment System, GWTS, SE 11, 13, 131, LEAD, 08/89

1989, continued

- EPRDA Soil Gas Investigation Report (SE Area), Soil, SE, Weston Services, Inc., 10/01/89
- Evaluation Report In-Situ Volatization System, LEAD, Soil, Weston Services, Inc., 10/01/89
- Emissions Treatment Technologies Evaluation In-Situ Vol. System, Soil, Weston Services, Inc., 10/01/89
- Operations and Maintenance Manual In-Situ Vol. System, Soil, Weston Services, Inc., 10/89
- Soil Sampling for Metals in DRMO Yard, LEAD, Soil, PDO 5, 106, Princeton Testing, 10/89

1990

- Site Investigation (SI), (Ammunition Storage Area), SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 01/90
- Electronic Metal Detection & Soil Vapor Survey - DRMO, PDO OU 1, 2: Soil, Groundwater, PDO 1; PDO 2, Princeton Testing, Inc., 1/90
- Site Specific Safety & Health Plan for SI (Ammo Area), SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 02/90
- Groundwater Quality Assessment Report Vol. 1-5, (GWAAP), Groundwater, SE 3, 81, 131, Hunter/ESE, 02/01/90
- Industrial Waste Treatment Plant Lagoon Closure Scope of Work, IWTP Lagoons, SE 3, 81, 131, US Army Corps of Engineers, Omaha District, 02/01/90
- Technical & Sampling/Analysis Plan for SI (Ammo Area), SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 04/01/90
- Preliminary Site Investigation of Repair Pit Bldg. 370, LEAD Buildings, US Army Corps of Engineers, Baltimore District, 06/90
- Site Investigation (SI) Field Logs (Ammo Area), SI, AA, 46, 50, 53, LEAD, 07/90
- Soil Vapor Contaminant Assessment of the Autocraft Shop Site, LEAD Buildings, EA Engineering, Science, and Technology, Inc., 07/01/90
- Focused Feasibility Study of Accelerated Remedial Actions, PDO/SE Areas, USATHAMA, 08/01/90
- Public Involvement and Response Plan for LEAD, Community Relations, Hunter/ESE, 09/01/90
- Proposed Plans for SE and PDO Area under FFS Action, PDO/SE Areas, LEAD, USATHAMA, 09/19/90
- RI/FS Final Sampling Design Plan, Vol. 1 - 3, PDO/SE Areas, Env. Science and Engineering, Inc., 10/01/90
- Responses to EPA/PADER on the RI/FS Work Plan, PDO/SE Areas, Env. Science and Engineering, Inc., 12/90

1991

- Pollution Abatement & Installation Restoration Program, LEAD, Science and Technology Corp., 01/91
- RI/FS Draft Management Plan, PDO/SE Areas, Env. Science and Engineering, Inc., 02/91

1991, continued

- RI/FS Briefing for LEAD, PDO/SE Areas, Env. Science and Engineering, Inc., 02/08/91
- RCRA Closure Plan & Site Safety Plan for IWTP Lagoons, IWTP Lagoons, SE 3, Roy F. Weston, Inc., 03/01/91
- RI/FS Accident Prevention and Safety Plan, PDO/SE Areas, Env. Science and Engineering, Inc., 04/91
- Final Proposed Plans PDO & SE Areas Operable Unit One, PDO/SE Areas, SE 1, PDO 1, LEAD, 05/91
- Groundwater Treatment Plant O and M Manual, GWTS, SE 11, 13, 131, Carbonair Services, 05/91
- Public Meeting Transcript Proposed Plans under FFS, PDO/SE Areas, SE / PDO ??, Hughes, Albright, Foltz, & Natale Reporting, 05/14/91
- Record of Decisions for PDO and SE Area under FFS, PDO/SE Areas, SE / PDO ??, LEAD, 06/91
- Final Geophysical Survey of Landfill J, SE Area, SE 9, 36, ESE, 08/23/91
- IWTP Lagoons and LTT Test Burn for Soils from LEAD, IWTP Lagoons, SE 11, 13, 131, ACES, 08/91
- Fire Training Pit Closure, Fire Training Pit, 63, International Technology Corp., 10/91
- Site Investigation and Assessment Report (Ammo Area) Vol. 1 - 3, SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 11/91

1992

- Draft Health Assessment for Letterkenny Army Depot(PDO & SE Area), PDO/SE Areas, SE & PDO, DEPOT WIDE, ATSDR, 1/92
- Defense Environmental Restoration Program - Annual Report FY 91, DERA, Department of Defense, 02/92
- Draft Final RCRA Closure Plan-Storage Area Near Fire Training Pit, Fire Training Pit, 63, WESTON, 04/92
- AEHA Risk Assess. # 39-26-L317-92, Offpost Resident Wells, PDO/SE Areas, Army Environmental Hygiene Agency, LEAD, 04/92
- Final Decision Document for Fireman's Training Pit Removal Action, Fire Training Pit, 63, LEAD, 06/92
- Prelim. Risk Assess., Ingestion of Fish from Rocky Spring Lake, Rocky Spring/Lake, PDO 3, 67, 70, Army Environmental Hygiene Agency, 7/92
- Inventory of Significant Ecological Features of LEAD, LEAD, The Nature Conservancy, 12/92
- "Environmental Issues" - LEAD Quarterly Cleanup Fact Sheets, LEAD, LEAD Env Restoration Br/LEAD Public Affairs Off., 4x's / YR

1993

- Public Health Assess Addendum for LEAD, Draft Fin, Public Release, PDO/SE Areas, ATSDR
- Remedial Investigation, PDO Area, Op. Units 1 & 2, Final Report, PDO OU 1, 2: Soil, PDO Groundwater, PDO 1; PDO 2, 24, 29, 77, 97, 103, Env. Sci. & Eng. (ESE), 1/93
- Low Temperature Thermal Desorption for Soil Remediation at LEAD, K Area, RASCO, Inc., 2/93

1993, continued

- LEAD SWMU Site Investigation Follow-On Work Plan, SI Addendum, ERM, Inc., 2/93
- LEAD SWMU Site Investigation Follow-On, Health & Safety Plan, SI Addendum, ERM, Inc., 2/93
- Stormwater Pollution Plan For LEAD, LEAD, Versar, Inc., 3/93
- Phase I Envir. Site Assess. -Bldg. 56/Vehicle Storage Area, Waste Disposal/Sites, SE 8, Woodward-Clyde Co., 04/93
- Phase II Envir. Site Assess.- Bldg. 56/Vehicle Storage Area, Waste Disposal/Sites, SE 8, Woodward-Clyde Co., 04/93
- Public Health Assessment Addendum For LEAD, Final Rpt., PDO/SE Areas, Agency For Toxic Substance & Disease Registry, 5/93
- Investigation of the Effects of a Groundwater Pump-and-Treat System, Pump and Treat System /TCE Cis/Trans, Marianne Merritt, 5/93
- Risk Assessment of the PDO Area, Operable Units 1 & 2, Final Rpt., PDO OU 1, 2: Soil, PDO Groundwater, PDO 1; PDO 2, 24, 29, 77, 97, 103, Environmental Science and Engineering, Inc., 6/93
- Remedial Investigation SE Area, Op Units 1&3, Final Rpt. V. 1-8, SE Area, SE 1, SE 3, 52, 81, 94, ESE, 6/93
- Safety & Health Plan for LEAD Groundwater Trt. Plant, Bldg. 365, GWTS, LEAD, 7/93
- LEAD SWMU Site Investigation Follow-On, Quality Assurance Plan, SI Addendum, ERM, Inc., 8/93
- Technology Remedial Action Report IWTP Lagoon Closure, IWTP Lagoons, SE 11, 13, 131, ETG/ACES, 9/93
- Certification of Closure of IWTP Lagoons 361 & 362, IWTP Lagoons, SE 3, 81, 94 , Nassaux-Hemsley, Inc., 09/93
- Acid Burning Pit Decision Document, SI, LEAD, 10/93
- RI/FS, PDO Area OU 3, 4: Quality Assurance Project Plan, PDO OU 3, 4, PDO 3; PDO 4, Versar, Inc., 10/93

1994

- Feasibility Study of PDO Area Op Units 1&2, Final Report, PDO OU 2; PDO Groundwater, PDO 1; PDO 2, 24, 69, 77, 97, 103, ESE, 02/94
- Feasibility Study of the Southeastern Area: OUs 1, 3, SE Area OUs 1 & 3, SE 1; SE 3, 52, 81, 94, Environmental Science & Engineering, Inc., 7/94
- Risk Assessment of the SE Area: OUs 1, 3. Vols 1 & 2, SE Area OUs 1 & 3, SE 1; SE 3, 52, 81, 94, Environmental Science & Engineering, Inc., 7/1994
- Technical Plan for RI, SE Area OUs 2 & 4-7, SE OU 2 & 4-7, SE 2; SE 4; SE 7, 32, 34, 72, 73, 74, 83, 80, 82, Fluor Daniel, Inc., 7/94
- Work Plan: RI/FS PDO Area OUs 3 & 4, PDO OU 3, 4, PDO 3; PDO 4, 64, 67, 70, 10, 78, Environmental Science & Engineering, Inc., 8/94
- Contam. Delineation, Water Tower Soils, LEAD, Soil, 10/94
- Emergency Removal of Water Tower Soils, Final Work Plan, Soil, Fluor Daniel Inc., 12/94
- Work Plan For Silt & Sediment Removal at Rocky Springs, Silt & Sediment Removal at Rocky Springs, PDO 5, 107, ESE, 12/94

1995

- LEAD 1995 Installation Action Plan, LEAD, IAP, IAP, LEAD, 1/95
- SWMU Site Investigation Follow-On Report, SI, LEAD, 1/95
- Proposed Plan, PDO Area, Operable Unit 2, PDO OU 2: Groundwater, PDO 2, 69, 77, 97, 103, LEAD, 2/95
- Transcript of Public Meeting, PDO Area OU 2, March 29, 1995, PDO OU 2: Groundwater, PDO 2, 69, 77, 97, 103, LEAD, 3/95
- Admin Record File for Water Tower (Lead in Soils), PDO Area, LEAD, 1994-95
- Pilot Study of Spring House Maxistrip Unit., PDO, PDO 5, 98, ERM, 4/95
- Quality Assurance Plan, FFS for SE Area OU 3, On Post Groundwater, SE OU 3: SE Groundwater, SE 3, 81, 94, Foothill, Inc., 4/95
- Mercury Detect. in Rocky Spring Lake and Bldg 1467 Contam. Assess, PDO OU 3: Mercury, PDO 3, 67, 70, ESE, 6/95
- Offpost Residential Wells Metals Assessment, PDO OU 4: Off-PDO Groundwater, PDO 2, 77, ESE, 6/95
- Carty Well Volatile Organic Compounds Contam. Assess., PDO OU 4: Off-PDO Groundwater, PDO 2, 69, ESE, 6/95
- Technical Plan for FFS, SE Area OU 3 (Onpost Groundwater), SE OU 3: SE Groundwater, SE 3, 81, 94, Foothill, Inc., 6/95
- Work Plan for Fine Bubble Diffused Aeration Pilot Scale Testing, PDO OU 1,2: Soil, PDO Groundwater, PDO 1; PDO 2, ESE, 10/95
- PCB Release Report Assessment/Sampling Plan, LEAD, PDO OU 5, PDO 5, 98, 106, 107, CH2MHILL, 12/95

1996

- Removal Action, Water Tower Soils, LEAD, PDO Area, LEAD, 3/96
- Eng. Eval/Cost Analy., SE Area, OU2, Indus. Waste Sewer Sys. Soil, SE OU2: Industrial Sewers, SE 2, 74, 83, Fluor-Daniel, 4/96
- Fish Stocking Program & Fish Consumption No. 39-EJ-4371-96, PDO OU 5: PCBs, PDO 5, 107, US Army CHPPM, 4/96
- Rowe Run Farm Animal Products. Fin Rpt Addendum to RI of SE Area, SE Area, SE 6, 71, 076, ESE, Inc., 4/96
- Analy. of Water Qual Data From Monitoring Wells at LEAD RCRA Site, IWTP Lagoons, US Geol. Survey, 5/96
- Phase I Env. Baseline Study for LEAD (BRAC 95) Vols. I-III, BRAC, SE 8, PDO 6, Weston, 8/96
- Mercury Detect. in Rocky Spring Lake-Site Invest. of PDO Area OU3, PDO OU 3: Mercury, PDO 3, 67, Versar, 8/96
- Emergency Delineation/Removal of Soils at the PDO Oil Burn Pit, PDO OU 4: Off-PDO Groundwater, PDO 4, 78, Weston, 10/96
- Technical Plan for Emergency Removal of Soils & Sediments at LEAD, SE Area, SE 4, 32, 34, 72, 73, Weston, 10/96

1997

- CERFA Letter Report, LEAD (BRAC), BRAC., Weston, 3/97
- EE/CA, SE Area OU 4, Stormwater Sewer & Drainage Way Sediments, SE OU 4, SE 4, 32, 34,72, 73, Fluor Daniel, 3/97

1997, continued

- LEAD 1997 Installation Action Plan, DERA, DEPOT WIDE, DEPOT WIDE, LEAD, 3/97
- EE/CA For Spill Area in Area A, SE Area, OU 5., SE OU 5, SE 5, 79, 105, Fluor Daniel, Inc., 7/97
- Final Technology Remedial Action Report, (K Area Soils Remediation), SE OU 1: (K Area), SE 1, 52, Mclaren Hart, Environmental Eng. Corp., 8/97
- Geophysical Investigation at Area J - Landfill, near Bldg. 320, Final Report, SE 9, 36, Geophex, LTD., 08/97
- SE Area OU-7, Truck Open Storage Area & Abandoned Septic Tank, SE OU 7 , SE 7, 80, 82, Fluor Daniel, Inc.
- Letterkenny Army Depot Phase I Parcels Proposed Plan, BRAC Phase I Parcels, SE 8, Roy F. Weston.

1998

- Final Envir. Assess for BRAC 95 Disposal & Reuse of Property at LEAD, BRAC 95 Disposal/ Reuse, US Army Material Command, 1/98
- Area of Concern (AOC) Decision Documents Phase I Parcels, Final Report, SE 8, Roy F. Weston, 4/98
- Final Termination Survey for Defense Logistics Agency Buildings, LEAD, DLA Radiation Survey, Roy F. Weston, 6/98
- Follow-up Geophysical Investigations (Area J; Landfill - July 1998) , Follow-up Final Report, SE 9, 36, Fluor Daniel GTI - IT Group, 07/98
- Final Community Relations Plan, LEAD Community Relations Plan, SE & PDO Areas, DEPOT WIDE, Roy F. Weston, 8/98
- Historical Assessment of Radiological Activity at (LEAD), Historical Assessment of RAD, Roy F. Weston, 8/98
- Historical Assessment of Radiological Activity at DLA Bldgs. at LEAD, RAD Assess. Of DLA bldgs. @ LEAD, Roy F. Weston, 8/98
- Final Termination Survey Report for Bldg. 6 and 9, Final Termination for Bldgs. 6/9, Roy F. Weston, 9/98
- Depot-Wide QAPP-Envir. Analy. to Support Invest. Remove/Disposal, Depot-Wide QAPP, Roy F. Weston, 9/98
- Remedial Investigation Report, Final RI, SE 2, 74, 83, Fluor Daniel, Inc., 09/98
- Finding of Suitability to Transfer (FOST) for Phase I Parcels @ LEAD, Final (FOST) Doc. – Phase I, Roy F. Weston, 10/98
- ROD for Phase I Parcels at LEAD, ROD Phase I Parcels, SE 8, Roy F. Weston, 9/98
- Final Termination Survey Report for Building 7 - LEAD, Final Termination Survey Bldg. 7, Roy F. Weston, 11/98
- Final Termination Survey Report for Building 8 - LEAD, Final Termination Survey Bldg. 8, Roy F. Weston, 11/98
- Final Termination Survey Report for Tank 913 - LEAD, Final Termination Survey – Tank 913, Roy F. Weston, 12/98
- BRAC Phase I Parcel AOC Decision Documents, Decision Document - AOC Phase I, Decision Documents, 12/98
- Finding of Suitability to Lease (FOSL) for Bldgs. 7,8, and 42 @ LEAD, Final (FOSL) Doc. – Bldgs. 7,8,& 42, SE 8, Roy F. Weston, 12/98

Previous Studies

1999

- Final Termination Survey Report for Building 4, Final Termination Report, SE 8, Roy F. Weston, 01/99
- Property and Health Plan for Remedial Action at DRMO Scrap Yard, Final Doc. Site Safety/Health Plan, PDO 5, 106, ICF Kaiser Engineers, 3/99
- Time Critical Removal Action Work Plan for PCB Removal at DRMO, Final - Time Critical Removal Action, PDO 5, 106, ICF Kaiser Engineers, 3/99
- Soil Character/Removal Evaluation Rpt for the PDO at DRMO Scrap Yd., Final Doc. Rem. Act. PCB Removal, PDO 5, 106, Roy F. Weston, 3/99
- Final Termination Survey Report for Tank 815, Final Termination Report, SE 8, Roy F. Weston, 03/99
- Tech. Plan for Background Soil & Sediment Collection @ LEAD, Final Report, Roy F. Weston, 3/99
- Phase II Environmental Site Assessment Building 350 Park Area, Final Report for United Defense LP, URS Greiner Woodward Clyde, 05/99
- Final Termination Survey Report for Building 5, Final Termination Report, SE 8, Roy F. Weston, 05/99
- Addendum to Environmental Baseline Survey (LEAD BRAC 95 Action), Addendum – Final Report, SE & PDO Areas, Roy F. Weston, 05/99
- In Situ Chemical Oxidation Remediation Pilot Study of Bedrock Aquifer, Final Doc. Technical Plan, Roy F. Weston, 6/99
- Historical Assessment of Radiological Activity @ LEAD, Final Report - Rev 1, Roy F. Weston, 6/99
- Endangered Species Act of 1973 - Bio. Assessment Report (Bog Turtle), Addendum – Final Report, US Army Corps. of Engineers (Baltimore Dist.), 8/99
- Finding of Suitability to Lease (FOSL), Bldgs. 5, 52 and 56 @ LEAD, Final Report, SE 8, Roy F. Weston, 9/99
- Geophysical Investigation of DRMO Scrap Yard Area G, Final Report, PDO 9, 36, Weston Solution, 10/99
- Tech. Plan: Test Trench Invest. For Tear Gas Cyl. at DRMO Scrap Yard, Final Doc. For Tear Gas Investigation, PDO 5, 106, Roy F. Weston, 11/99
- Tech. Plan: Rowe and Rocky Springs Pilot Studies (LEAD), Final Doc. For Rowe /Rocky Spring Pilot, SE 6, PDO 2, 29, 98, 71, 76, Roy F. Weston, 11/99
- Final - Rowe Spring Pilot Test Report, Final Report, SE 6, 68, SAIC, 11/99
- Rowe & Rocky Spring Pilot Study, Final Technical Plan, SE 6, PDO 5, 107, 071, Roy F. Weston, 11/99
- Investigation of PCBs in the PDO Area, OU 5 @ LEAD, Final Report, PDO 5, 106, Roy F. Weston, 12/99

2000

- SE OU 3 UVB Recirculation Well Pilot Study Report, Final Report, SE 3, 81, IT Corporation, 01/00
- Summary Report for PDO DRMO, Scrap Yard Area G, Tear Gas Investigation, Final Summary Doc., PDO 5, 106, Roy F. Weston, 2/00
- Decision Document - Mercury Detection in Rocky Spring Lake, PDO OU3, Decision Document, PDO 3, 70, 67, IT Corporation, 2/00

2000, continued

- Phase II - Finding of Suitability to Lease (FOSL) @ LEAD, Final Report, SE 8, Roy F. Weston, 2/00
- Final Termination Survey Report for Bldg 441, Final Termination Report, SE 8, 116, 118, Roy F. Weston, 2/00
- Phase II FOSL Bldgs. 5, 5-2, 56 - Bldgs.7, 8, 42 - Bldgs. 6, 9, 19, 412, 416, 500, 522, 2291, Final Report, SE, Weston Solution, 03/00
- Building 349 Sump Pump Operations and Monitoring Report 1996-1999, Final Report, PDO 3, 94, Geophex, Ltd., 4/00
- Final Termination Survey Report for Bldg 32, Final Termination Report, SE 8 or 7, 80, Roy F. Weston, 5/00
- Final Termination Survey Report for Bldg 33, Final Termination Report, SE 8 or 7, 80, Roy F. Weston, 5/00
- Final Termination Survey Report for Bldg 811, Final Termination Report, SE 8, Roy F. Weston, 5/00
- SE OU 3 In Situ Ozonation Pilot Study Report, Final Report, SE 3, 81, IT Corporation, 06/00
- EE/CA Open Vehicle Storage Area Soils PDO 6 / SE 8 (Volume I and II), EE/CA Final Report, PDO 6; SE 8, Roy F. Weston, 06/00
- Data Validation Report SE OU 4, Data Validation (Final), SE 4, 32,34,72,73, Roy F. Weston, 06/00
- Data Validation Plan for Historical Environmental Analytical Data, Data Validation Plan (Final), SE 4, 32,34,72,73, Roy F. Weston, 06/00
- Data Validation Report SE 4 - Metals and Total Organic Carbon Data - Vol. (1-5) Attach., Data Validation Report (Final), SE 4, 32,34,72,73, Roy F. Weston, 06/00
- Supplement Invest. Summary Rpt. for SE OU 7 Truck Open Storage Area, Final Report , SE 7, 80, 82, Roy F. Weston, 07/00
- Decision Documents Former PCB Transformer Sites (SE Area OU 8) DSERTS LEAD-125, Final Report, SE 8, 125, Roy F. Weston, 10/00
- Supplement 1 to the Environmental Baseline Survey for LEAD BRAC 95 Action, Final Report, SE & PDO Areas, Roy F. Weston, 11/00
- Tech. Work Plan - Removal Action Dioxin-Contaminated Soils at (TOSA), Final Report, SE 8, AMDYNE Corporation, 12/00

2001

- Groundwater Recovery Investigation Assessment Report, Final Report, Foothill, Inc., 01/01
- Seasonally High Groundwater Determination for Phase 2 BRAC Parcels, Final Report, SE 8, EPSYS Corporation, 2/01
- Feasibility Study Report for Gate 1 Guardhouse, Bldg 511, SE area OU 8, Final Report, SE 8, Roy F. Weston, 2/01
- Proposed Plan for Phase II Parcels (LEAD), Final Report, SE 8, Roy F. Weston, 2/01
- Groundwater Vapor Intrusion Risk Assessment Phase I and II Parcels, Final Report, SE 8, Roy F. Weston, 2/01
- Remedial Investigation & Risk Assessment Report for Gate 1 Guardhouse, Final Report, SE 8, Roy F. Weston, 2/01
- Proposed Plan for Phase II Parcels (LEAD), Final Report, SE 8, Roy F. Weston, 2/01

2001, continued

- Enhanced Bioremediation Pilot Study (EBPS) SE OU 10, Final Report, SE 10, 101, 128, Roy F. Weston, 3/01
- Data Validation Report SE OU 2-Inorganic Data (Lead/Selenium Soil) (1-13 Vol.), Final Report, SE 2, Roy F. Weston, 3/01
- Eng. Evaluation/Cost Analysis for lot 48 former Ingot Storage Area SEOU8, Final Report, SE 8, 60, Roy F. Weston, 4/01
- Asbestos Air Sampling Results for BRAC Bldg. PDO OU6 & SE OU8, Final Report, PDO 6; SE 8, Roy F. Weston, 4/01
- PDO OU5 Remedial Completion Report for PCB Removal at DRMO, Final Report, PDO 5, 106, IT Corporation, 5/01
- PDO OU 5 Removal Action Completion Report for PCB Removal at DRMO Scrap Yard, Removal Completion Report (Final), PDO 5, 106, IT Corporation, 05/01
- Final Termination Survey Report for Building S-331, Final Termination Survey Report, PDO 6, Roy F. Weston, 05/01
- Record of Decision for Phase II Parcels - LEAD, Record of Decision - Final, SE 8, Roy F. Weston, 7/01
- In Situ Chem. Oxidation Pilot Test; Technical Plan (SE OU - 11) IWTP Lagoons, Final Technical Plan, SE 11, 131, SAIC, 7/01
- Removal Action Completion Report - Dioxin - Contaminated Soils at TOSA, Removal Action - RA, SE 7, 80, Amdyne Corporation, 08/01
- PDO 6 & SE 8 - Removal Action Completion Rpt PAH-Contaminated Soils & OVSA, Final Report, PDO; SE, IT Group, 9/01
- Five Year Review Report SE Area National Priorities List, Five Year Review SE Area (Final), SE Area, US Army Corps. of Engineers (Baltimore Dist.), 10/01
- Five Year Review Report (Addendum to Report) K Area Cap Inspection, Addendum K Area I Inspection (Final), SE Area, US Army Corps. of Engineers (Baltimore Dist.), 11/01
- Finding of Suitability to Transfer (FOST), for the Phase II BRAC Parcels, FOST for Phase II BRAC Parcels, SE 8, Roy F. Weston, 11/01

2002

- Report for the Tannin Pilot Surface Decontamination Study for Bldgs. 651 & 652, Final Report for the Tannin Pilot, PDO 6, Roy F. Weston, 01/02
- Background Soil and Sediment Sampling Results, Final Soil & Sediment Report, PDO 6; SE 8, Roy F. Weston, 01/02
- Evaluation of Recreational / Daycare Use for the Chapel / Gym Parcel - (PDO Area), Final Evaluation Report, PDO 6, Roy F. Weston, 01/02
- 2002 ER,A Installation Action Plan (IAP), Final Report, PDO; SE, FORSCOM/AMC IAP Support, 01/02
- Planning Doc.- Removal Action Lead Contaminated Soils @ Lot 48 Ingot Storage, Final Planning Document, SE 8, 60, Amdyne Corporation, 04-02
- Remedial Invest. & Risk Assessment Rpt. for former Veh. Storage Area North of Test Track, Final RA / RA, PDO 6; SE 8, Roy F. Weston, 05/02
- Engineering Evaluation/Cost Analysis for the Former PDO Scrapyard, Final EE/CA, PDO 6, 66, 93, Roy F. Weston, 05/02

2002, continued

- Technical Plan for: BRAC Investigations in the SE OU 8, Final - Technical Plan, SE 8, 2,8,11,16,33,49,60,72,73,74,92,114,115,118,124,125,126, 130, Roy F. Weston, 05/02
- Final Termination Survey Report for Bldg. 14, Final - Termination Survey, SE 8, Weston Solution, 6/02
- SE OU 2 Industrial Wastewater Sewers - Risk Assessment Report, Final Report, SE 2, 74, IT Group, 06/02
- 2003 ER,A Installation Action Plan (IAP), Final Report, PDO;SE, AMC IAP Support, 07/02
- Final Work Plan for Risk Assessment for PDO OU 5, Final Work Plan, PDO 5, Roy F. Weston, 08/02
- Land Use Control Assurance Plan - Memo. of Agreement for LEAD BRAC Phase 1 & 2, Final Report, SE 8, 21,27,110,114,116,119,123, Letterkenny Army Depot, 08/02
- LEAD - Long-Term Monitoring Efforts at PDO OU 2 4A and 4B, Final Document, PDO 2, 4A, 4B, 69,77,78,97, The IT Group, 08/02
- Remedial Investigation & Risk Assessment Report for 400 Series Fire Training Area, Final Report, SE 8, 118, Weston Solution, 09/02
- RI & RA (Fast Site N. Bldg. 532, PDO 6, Final RI/RA, PDO 6, 126, Weston Solution, 09/02
- RI & RA for Backwash Discharge Area, Final RI/RA, SE 8, 11, Weston Solution, 10/02
- Addendum to the PCB Removal Work Plan at the DRMO Scrap Yard, Final – Addendum to Removal Action, PDO 5, 106, Weston Solution, 10/02
- Removal Action Completion Report - Bldgs. 651/652 Tannin Resin Removal, Final – Removal Action Report, PDO 6, 113, Cape Environmental, 10/02
- 2002 Finding of Suitability to Lease (FOSL), Final - 2002 FOSL, SE 8, 1, 2, Weston Solution, 10/02

2003

- Remedial Investigation & Risk Assessment Report for Bldg. 437(UST), Final Report, SE 8, 126, Weston Solution, 01/03
- Removal Action Completion Report - Lead - Contaminated Soils at Lot 48, Final Removal Action Report, SE 8, 60, Amdyne Corporation, 02/03
- Remedial Investigation (RI) and Risk Assessment - Open Vehicle Storage Area, Final Report, SE 8; PDO 6, 110,114, Weston Solution, 04/03
- Summary Report on the Groundwater Quality in the Southern Martinsburg Shale Region, Final report, SE 7; SE 13, 126,011,118, Weston Solution, 04/03
- Proposed Plan for Phase III Parcels, Final Report, SE 7;SE 8;SE 13;PDO 6, 126, 118, 011, 110, 114, Weston Solution, 04/03
- Installation Action Plan for 2004, Final Report, SE; PDO, IRP Program, LEAD, 04/03
- In Situ Chemical Oxidation Pilot Test Report - SE OU 11 IWTP Lagoons, Final Report, SE, SAIC, 07/03
- Focused Feasibility Study for the SE OU 10 (Conococheaue Drainage) Volumes I – XII, Final Report, SE 6; SE 10, Weston Solution, 08/03
- Finding of Suitability to Transfer (FOST) for the Phase III BRAC Parcels, Final Report, SE, Weston Solution, 08/03
- Record of Decision for Phase III Parcels, Final Report, SE, Weston Solution, 08/03

2003, continued

- SE OU 4 Stormwater Sewers and Associated Sediments Removal Action Summary Report, Final Report, SE 4, 72, SHAW Environmental, 09/03
- Depot Wide Quality Assurance Project Plan for Invest. Removal, Disposal activities at LEAD, Final Report, SE; PDO, Weston Solution, 10/03
- K Area 1, 2 and 3 Cap Inspection Forms for Five Year Report, Final Report, SE 1, 52, ARMY, 12/03

2004

- Comprehensive Envir. Response, Compensation, & Liability Act" (CERCLA) ESD TWO: Final Report, SE 1, 52, Letterkenny Army Depot, 05/04
- Action Memorandum for LEAD Non-Contaminated Soil at the Former Scrapyard, Final Report, PDO, 66, 93, Weston Solution, 06/04
- RI & RA Report for the Former Transformer Area near Building 98 (SE OU 8), Final Report, SE 8, 125, Weston Solution, 07/04
- RI & RA for the Building 433 Locomotive Defueling Point & Underground Storage Tank, Final Report, SE 8, 118, Weston Solution, 08/04
- 2005 Installation Action Plan, Final Report, AA, PDO, SE, DEPOT WIDE, LEAD, 08/04
- RI and RA Report for Test Track and Areas E and F SE Area, Final Report, SE 8, 114, Weston Solution, 09/04
- RI and RA Report Building 16 and 17 (SE Area OU 8) - (Volumes 1 & 2), Final Report, SE 8, 92, Weston Solution, 09/04
- SE OU 5 Area A and B - Remedial Investigation Report Vol. 1-3, Final Report, SE 5, 9, 79, 105, IT Group, 09/04
- RI and RA Report for the Veh./Equip. Storage Area West of the Test Track (PDO area OU 6), Final Report, PDO 6, 110, Weston Solution, 10/04
- SE OU 4 Storm Water Sewer and Contaminated Sediments (Proposed Plan), Final Report, SE 4, 32, 34, 72, SHAW Environmental, 10/04
- Final Termination Survey Report for Building 51, Final Report, SE 8, 23, Weston Solution, 11/04
- RI and RA Report for SE Sediment Pile Area (SE Area OU 8), Final Report, SE 8, 73, Weston Solution, 11/04
- SE OU 2 Industrial Wastewater Sewers - Feasibility Study Report, Final Report, SE 2, 74, 83, IT Group, 11/04
- Technical Plan for Horizontal and Vertical Characterization of the GW Aquifer in SE OU 3A, OU 11 and OU 6, Final Report, SE 3A, SE 11, SE 6, 13, 52, 68, 79, 81, 84, 86, 87, 88, 96, 104, 131, Weston Solution, 12/04
- Engineering Evaluation/Cost Analysis for LEAD Contaminated Soil at the PDO Scrapyard, Final Report, PDO, 66, 93, Weston Solution, 12/04

2005

- SE Area - OU4 - Storm Water Sewer and Contaminated Sediments, 72, 73, 74 - Final Record of Decision was signed August 2005.
- SE Area OU 2: Industrial Wastewater Sewers (IWWS) and Contaminated Soils – 75, 83, Proposed Plan Final December 2005
- A Final Record of Decision was submitted on December 14, 2005 for final review and signature.

LETTERKENNY ARMY DEPOT

Installation Restoration Program

Site Descriptions

Overview of the PDO Area

The PDO has seven OUs:

PDO OU 1 - Source Area Soils

- OU 1 consists of the Drum Storage Revetments (LEAD-024) and the OBP, LEAD-010.
- Investigations were completed in the early 1980s. A No Action ROD was issued in August 1991 stating that LEAD-010 and LEAD-024 were not active sources of groundwater contamination. However, black sludge was discovered at the OBP in 1995 and subsequent soil borings confirmed VOC soil contamination.
- By mutual agreement with USEPA and PADEP, this VOC soil and groundwater contamination is managed as part of PDO OU 4.
- ER,A Related AEDB-R Site: LEAD-024.

PDO OU 2 - PDO Area Groundwater and Surface Water - (ROD OU 2 and OU 5)

- The 1993 PDO OU 2 RI report concluded that the groundwater from the PDO OBP discharges into the Rocky Spring Valley. During high groundwater conditions, groundwater from the OBP would discharge into the AA near well 815. The Draft PDO OU 4 RI Report (produced to delineate this area of groundwater influence around the OBP) indicated that the PDO OBP discharged solely into the AA (PDO OU 4). However, groundwater samples from the 2004 sampling events are showing 1,1,1 TCA and 1,4-dioxane migrating across groundwater divides into PDO OU 2.

  The removal of the wood pile allowed for better delineation of the area groundwater. It is believed that the OBP groundwater divide is further to the East than originally thought. OBP VOC contaminated groundwater migrates west of the OBP into the AA and East of the OBP into the PDO. Groundwater sampling is underway to further delineate/characterize the extent of the VOC-impacted groundwater plume in the Upper PDO. A focused dye study is planned for the summer of 2006. Preparation of the draft FFS and preliminary draft PP has been put on hold pending the results of this investigation.
- Related AEDB-R Sites: LEAD-029, 069, 077, 097, 098 (098 is being handled under LEAD-107 in PDO OU 5).
- BRAC Related AEDB-R Sites: LEAD-063, 103.

PDO OU 3 - Mercury Detections in Rocky Spring Lake (Completed)

- A Decision Document (DD) was signed in Feb 2000 stating that NFA was required.
- Related AEDB-R Sites: LEAD-070, 064, 067.

PDO OU 4 – OBP VOC Groundwater Contamination (Upper PDO) (BRAC)

The removal of the wood pile near the OBP allowed for better delineation of the area groundwater. It is believed that the OBP groundwater divide is further to the East than originally thought. OBP VOC contaminated groundwater migrates west of the OBP into the AA and East of the OBP into the PDO. Groundwater sampling is underway to further delineate/characterize the extent of the VOC-impacted groundwater plume in the Upper PDO. A focused dye study is planned for the summer of 2006. Preparation of the draft FFS and preliminary draft PP has been put on hold pending the results of this investigation. Groundwater sampling indicates that 1,1,1 TCA and 1,4-dioxane are migrating into PDO OU 2.

- BRAC Related AEDB-R Sites: LEAD-063, 103.

PDO OU 5 - PCB Investigation of the Rocky Spring System

- The dye study and an emergency removal of sediments upgradient of Rocky Spring Lake (20 cy) was completed in summer 2002. Additional sediment sample collection has been underway since 2004 to verify that the concentration of PCB sediments is decreasing.
- ER,A Related AEDB-R Sites: LEAD-107, 106.

PDO OU 6 - Waste Sites Being Investigated as Per the 1995 BRAC Decision

- ER,A Related AEDB-R Site: LEAD-025.
- BRAC Related AEDB-R Sites: LEAD-025, 026, 037, 040, 044, 048, 093, 110, 111, 112, 113, 117, 129.

PDO OU 7 Open Vehicle Storage Area (BRAC)

- BRAC Related AEDB-R Site: LEAD-110

LEAD-029
Rocky Spring Lake (VOCs) (PDO OU 2)

SITE DESCRIPTION

OU 2 consists of VOC-contaminated groundwater (on and off-post) in the PDO Area, as well as VOC source areas exclusive of the Drum Storage Revetments (PDO OU 1) and the OBP Area (PDO OU 4). Due to the infeasibility of treating upgradient groundwater; it was decided to address PDO OU 2 groundwater issues at the Spring House at Rocky Spring (primary discharge point of VOC contaminated groundwater) rather than attempt to treat at multiple upgradient sources. Ten years of LTM at the Spring House indicates that VOC concentrations are dropping.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Surface Water, Groundwater

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199101	200710
RD	200604	200804
RA(C)	200604	200805
RA(O)	200806	201306
LTM	201307	201507

RIP DATE: 200806
RC DATE: 201306

Rocky Spring Lake was created by construction of an earthen dam approximately 250-ft long and 15- to 20-ft high. The discharge from the lake is via a three-sided concrete drop spillway located at the right abutment of the dam. A 24-inch diameter culvert equipped with a manually operated slide gate is used periodically to lower the lake below the spillway crest during the winter months. The Rocky Spring Lake watershed includes an area approximately 3.34 mi^2 or 2,140 acres. The watershed area is well defined topographically due to the relief that exists at the site, which ranges from a high of 780 feet-mean sea level (ft-msl) to approximately 580 ft-msl at the point where Rocky Spring Branch flows off-post southwest of the Rocky Spring dam. Rocky Spring Lake supports a large fish and wildlife population and is being used for catch-and-release fishing purposes.

In January 1995, the Army removed sediments from the Spring House at Rocky Spring (LEAD-098) to support a remedial design (RD) effort. There were no drawings of the Spring House (then) available and the construction, location of springs, and bottom conditions were unknown. During this effort, an investigation of the Rocky Spring Weir Box (LEAD-99) lead to the discovery of two wells (LEAD-103) formerly used as LEAD water production wells (now abandoned). These wells were identified as 1383 and 1384 (their former building numbers). Wells 1383 and 1384 are being used to monitor the condition of groundwater at the PDO off-post boundary.

The pre-remediation sediment waste characterization indicated that PCBs were present in levels that may be of concern. Limited fish tissue sampling indicated that the levels of PCBs in fish tissue were at levels of potential human and ecological concern. LEAD implemented a temporary fishing ban until the PDO OU 5 RI could be completed (PCBs

in the Rocky Spring System. Current information supports a catch-and-release fishing program. See the description of PDO OU 5 (LEAD 107) for further information.

The RD for the VOC treatment system had progressed to the 60% design stage when several significant regulatory actions occurred. The PADEP Bureau of Air Quality ruled that the VOCs emissions from the Rocky Spring Treatment Plant would be "de minimus," and would not require an air permit. PADEP agreed that a naturally occurring spring would not require a National Pollution Discharge Elimination System (NPDES) permit. The Pennsylvania legislature enacted into law Senate Bill One (called Act Two) that replaced the state's groundwater background requirement (non-degradation requirement) with MCLs or other recognized federal standards. This resolved the last administrative point of difference between PADEP and the Army.

A Fine Bubble Diffused Aeration Pilot study was conducted for one week in November 1995. Results indicated that this system could meet surface water ARARs over a wide variety of flows and VOC input concentrations; however, use of this system might increase the amount of PCBs released from the sediments. This study was published in 1996.

A new PP and ROD will be produced for PDO OU 2. The new PP and ROD will address the following issues that affect the remedy for PDO OU 2:

PDO OU 4 (BRAC): Recent investigations have determined that VOC contaminated groundwater from the OBP (shale) is migrating towards the PDO valley (limestone). This site had not been adequately investigated due to the presence of a large amount of waste wood (up to 30 feet high) that blocked access to drilling sites. It is not currently known if the VOC contaminated groundwater from the OBP is steady state (VOC levels are constant (Increasing / Decreasing). In addition the time of travel in the shale in this area is unknown.

If the VOCs discharging from the OBP is increasing this may adversely affect PDO OU 2.

Once the OBP fieldwork is completed the Army would propose a boundary between PDO OU 2 and 4. It is believed that the VOC groundwater contamination from the OBP is steady state (VOC levels are constant), neither increasing nor decreasing. The time of travel in the shale will be measured by a dye study planned for the summer of 2006. The dye study and additional sampling will allow the Army to develop a boundary line between PDO OU 2 and 4. This would allow the majority of the PDO Area groundwater (lower drainage) to be closed out by PDO OU 2. The VOC contaminated groundwater in PDO OU 4 would be addressed separately.

PDO OU 5 (BRAC/ERA): PDO OU 5 addresses PCBs in the PDO system. The source of the PCBs was determined to be the DRMO Scrap yard. Emergency removals have been conducted at the DRMO Scrap yard and down gradient drainage ways. The Army is continuing to measure the concentration of PCBs in the sediment from Rocky Spring. It appears that the concentration of PCBs in the sediment is decreasing. Additional

Rocky Spring Lake (VOCS) (PDO OU 2), *cont.*

PCB sampling will be conducted to verify this decrease. This information will be used to determine the length of time PCB contaminated sediments will be discharged (at levels of concern).

The Army, USEPA, and PADEP have agreed to address OU 2 and OU 5 remedies together in one ROD. All parties also realize that the ROD cannot be completed until the Army identifies the PDO OU 2 and 4 boundary line.

CLEANUP STRATEGY

Sampling and groundwater elevation monitoring is currently being conducted. This information will be documented in the upcoming FS Addendum. This report will document that natural attenuation of the VOCs is occurring. Ten years of data at the Spring House indicate that VOC concentrations are steadily declining. When the ROD is finalized, the remedy will consist of Monitored Natural Attenuation (MNA), LTM, and institutional controls (IC) (Includes five-year reviews).

LEAD-077
PDO Offpost Drinking Water (PDO OU 2)

SITE DESCRIPTION

Approximately 20 residential drinking water wells south of the PDO Area were sampled periodically from 1982 through 1995. No VOCs from the PDO Area were found in any off-post PDO wells except for very low levels at one residence located within several hundred feet of Rocky Spring (see discussion of the Carty Well [LEAD-069] below). All of these detections were sub-MCL (within safe drinking water standards). The Army forwarded a copy of the water sampling results to each resident.

The Army conducted follow-up sampling of fourteen off-post residential wells in July 1994, December 1994, and July 1995. The Army measured groundwater levels in the residential wells and PDO Area wells during each of the three sampling periods and evaluated the local geology/hydrology to help characterize groundwater flow patterns in the area. Results of this sampling were sent to each respective resident. Results did not indicate PDO Area groundwater is affecting any off-post residential wells except for the Carty well occasionally (sub MCL levels), during low groundwater conditions.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater

Phases	Start	End
PA	198001	198602
SI	198602	198902
RI/FS	199403	200710
RD	200604	200804
RA(C)	200604	200805
RA(O)	200806	201306

RIP DATE: 200806
RC DATE: 201306

No VOCs exceeded MCLs, and none of the VOCs which are consistently detected in the contaminated groundwater of the PDO Area, were detected in any of the residential wells (besides the Carty well).

As part of this effort (PDO OU 4), the Army performed geological mapping of the off-post residential well area using onsite data gathered in the field as well as hydrogeological data. A local geology description is included in the May 30, 1997, draft RI report for OU 4.

The Draft PDO OU 4 RI report recommended that several of the residential water supply wells closest to the LEAD boundary be monitored for VOCs during low water table conditions. The off-post residential wells are located upgradient of the LEAD groundwater. The gradient normally is towards the Depot (groundwater flows from off-post towards LEAD). During periods of low groundwater levels there was a possibility that the gradient would reverse (LEAD groundwater would flow off-post). This phenomenon has only been demonstrated at the Carty well.

In late August 1997, LEAD contacted the owners of the residential wells to arrange for the sampling recommended by the RI report. On August 27, 1997, USEPA requested, and LEAD agreed, to include PCB analysis of the water samples as a screen and to provide information for the ongoing PDO Area OU 5 fieldwork. Analysis of the samples

was performed using USEPA "Contract Laboratory Program" procedures. The well sampling began in September 3, 1997.

In May 1999, LEAD completed installation of two piezometers (PDO99PZ1 and PDO99PZ2) and completed sampling of five wells (CARTY, FITZ, LETTERKENNY PARK, 1383, and Rocky Spring House) at LEAD during the months of May and June.

There had been detections of benzene in ten off-PDO residential drinking water wells and detections of lead above action levels in three off-PDO residential drinking water wells, (ESE 1993 RI report for PDO). Three rounds of additional off-post sampling did not detect benzene in any well. This investigation showed that all of the homes effected were hydraulically upgradient of LEAD. It was determined that the detection in the off-PDO wells was the result of a laboratory accident.

The detections of lead in three off-PDO area wells were determined to be plumbing related (lead or brass plumbing components). These homes were hydraulically upgradient of LEAD as well.

The LTM Letter Report was submitted January 2004 for OUs 2, 4A and 4B. This summarizes to date the LTM of the Off-post residential wells on the PDO side of LEAD. Groundwater samples were collected monthly during the period of January 2002 through April 2003. Samples were analyzed for Target Compound List VOCs.

The installation of real time Telemetric Equipment at these wells will continue to give LEAD groundwater levels as we continue to collect/transfer this information into our Geographic Information System.

CLEANUP STRATEGY

- Verify that any off-post migration does not exceed MCLs.
- LTM is scheduled after the signing of the PDO OU 2 ROD.
- Sampling and groundwater height monitoring is currently being conducted. This information will be documented in the upcoming FS Addendum. It is anticipated that this report will show that MNA is occurring.
- Identify any instances of a shift in the groundwater gradient.

It is anticipated that this report will show the following:

- Natural Attenuation of the VOC contaminated groundwater is occurring; VOC concentrations continue to decline.
- During the monitoring period; there has been a positive groundwater gradient between the Offpost/Onpost groundwater, including the Carty well.

LEAD-077
PDO Offpost Drinking Water (PDO OU 2), *cont.*

Sampling and groundwater elevation monitoring is currently being conducted. This information will be documented in the upcoming FS Addendum. This report will document that natural attenuation of the VOCs is occurring. Ten years of data at the Spring House indicate that VOC concentrations are steadily declining. When the ROD is finalized, the remedy will consist of MNA, LTM, and IC (Includes five-year reviews). The LTM phase at site LEAD-029 includes funding for the LTM activities at this site.

History of PDO OU 3 and 4

As part of the required PDO RI sampling, the Army sampled off-post residential wells in the PDO area for VOCs and metals. The Army also sampled Rocky Spring Lake for VOCs and metals. The following unexpected results occurred:

- Ten PDO off-post residences had detections of benzene in their wells. Benzene had never been a COC in the lake, and the "detections" were eventually determined to have resulted from laboratory error.
- Three PDO off-post residential wells exceeded the USEPA action level for lead.
- The Army detected mercury in Rocky Spring Lake during the last two rounds of metal sampling.
- Additional information was required to determine a remedy for the PDO OBP.

Based on the above results, the Army proposed the creation of two additional PDO OUs:

- PDO OU 3: Mercury in Rocky Spring Lake
- PDO OU 4: Off-PDO Groundwater - consisting of two parts:
- Off-post detections of lead and benzene were detected in residential wells (Discussed under LEAD-077).
- Groundwater contamination flows towards the AA and not part of OU 2 (Addressed under BRAC).

PDO OU 3 - Mercury Detections in Rocky Spring Lake

- A DD was signed in Feb 2000 stating that no future action was required.
- Related AEDB-R Sites: LEAD-070, 064, 067.

LEAD-107
Rocky Spring PCB Sediments (PDO OU 5)

SITE DESCRIPTION

The discovery of PCB-contaminated sediments discharging from Rocky Spring (LEAD-098) led to the creation of PDO OU 5: PCBs in the Rocky Spring System. The entire PDO area was sampled for PCBs starting in October 1997. PCBs were detected at levels of concern in the Defense Reutilization and Marketing Office (DRMO) Scrap Yard and its downgradient drainageways.

PCBs (Aroclor 1260) in the Rocky Spring System at levels of concern were found in the drainageway downgradient of the DRMO scrapyard (13 ppm), and in a wetland area that has formed around a sinkhole (2 ppm).

A dye study (summer 2000) showed that the travel time across the Rocky Spring Valley is two days. Field and biota sampling was completed in Jan 2002. Sediment removal in the DRMO occurred during 2001 and 2002. Downstream sediments were removed as necessary in 2002 and 2003.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: PCBs

MEDIA OF CONCERN: Sediment

Phases	Start	End
PA	198001	198602
SI	198001	198602
IRA	199904	200005
RI/FS	199610	200710
RD	200604	200804
RA(C)	200604	200805
RA(O)	200806	201306

RIP DATE: 200806
RC DATE: 201306

Sediment in the sinkhole area is being addressed under the BRAC program.

The Army is continuing to measure the concentration of PCBs in the sediment from Rocky Spring. It appears that the concentration of PCBs in the sediment is decreasing. Additional PCB sampling will be conducted to verify this decrease. This information will be used to determine the length of time PCB contaminated sediments will be discharged (at levels of concern).

Another potential concern for this site is the discovery of VOCs in groundwater migrating to the south from the OBP (PDO OU 4). It is believed that the VOC groundwater contamination from the OBP is steady state (VOC levels are constant), neither increasing nor decreasing. The time of travel in the shale will be measured by a dye study planned for the summer of 2006. The dye study and additional sampling will allow the Army to develop a boundary line between PDO OU 2 and 4. This would allow the majority of the PDO Area groundwater (lower drainage) to be closed out by PDO OU 2. The VOC contaminated groundwater in PDO OU 4 would be addressed separately.

LEAD-107
Rocky Spring PCB Sediments (PDO OU 5), cont.

CLEANUP STRATEGY

Additional fieldwork is underway at the OBP. The results of this fieldwork will be included as part of the PDO OU 4 RI report.

The Army is continuing to measure the concentration of PCBs in the sediment from Rocky Spring. It appears that the concentration of PCBs in the sediment is decreasing. Additional PCB sampling will be conducted to verify this decrease. This information will be used to determine the length of time PCB contaminated sediments will be discharged (at levels of concern). These results will be published in the PDO OU 5 RI Report. The Army, USEPA, and PADEP have agreed to address OU 2 and OU 5 remedies together in one ROD. When the ROD is finalized, the remedy for PCBs will consist of MNA, LTM, and IC (Includes five-year reviews). The LTM phase at site LEAD-029 includes funding for the LTM activities at this site.

Overview of the SE Area

In November of 1992, the IWTP lagoon closure was completed (LEAD-013). The lagoons were closed under the provisions of RCRA. In the summer of 1993, the well vaults were replaced and the site was seeded. In September of 1993, PADEP approved the final Lagoon Closure Report. Groundwater at this site is addressed with as part of SE OU 11. In the spring of 1995, field work began on the SE OU 3A DA and NSIA FFS. All of the existing recovery wells were rehabilitated by removing accumulated sediment, scouring, and redevelopment. Well liners were installed to maintain bore integrity; control devices and pumps were reworked, and two collapsed wells were abandoned. Flow controllers were installed in each of the high volume wells, allowing the wells to be pumped continuously, which reduced both sedimentation and plugging. Control system rehabilitation was completed by the summer of 1996. As part of this effort, replacement and supplemental recovery wells were installed. USEPA and PADEP have agreed that all further groundwater issues at LEAD are to be addressed under the provisions of CERCLA. All new recovery wells were installed and are regulated by CERCLA. The Army intends to negotiate with USEPA and PADEP to integrate the RCRA-closed lagoons into the SE OU 11 CERCLA compliance effort.

In June 1993, the Army published the Final SE RI for OU 1 (LEAD-052) & 3 Report, (LEAD-1-9, 13, 20, 21, 23, 33, 35, 36, 38, 41, 49, and 61). The report addressed soils and groundwater contamination. The report concluded that the soils in the SE Area have only scattered detections of heavy metals in most areas. Total lead levels in the K Area soils (located in the DA) were as high as 10,400 ppm. Scattered detections of metals were found in groundwater samples from DA monitoring wells; however, these detections were linked to poor monitoring well construction/placement. This was shown to be correct when one well (which has always indicated the presence of lead in the groundwater) was abandoned and replaced. Groundwater sampled from the replacement well contained no lead. Based on this information and other sampling results, it was determined that the K Area groundwater is not contaminated with metals. The source soils in the following areas are contaminated with metals/VOCs: Area A (waste disposal area) [LEAD-079], Area B (OBP) [LEAD-09], Area D (IWTP Lagoons) [LEAD-013], removal completed in November of 1992, the K areas (LEAD-052): K-1 (lagoon), K-2 (revetted area) and K-3 (lagoon) removal completed in 1995, and the Spill Area in Area A (LEAD-105) removal completed in 1997.

The sources of groundwater contamination identified in the SIA are the Storm Water Sewer Drainageways (Rowe Run and the Storm Water Sewer Solids (Southeast Drainageway) (LEAD-073), the Industrial Wastewater Sewers (IWWS) (LEAD-074), and the Industrial Wastewater Sewers soils (LEAD-083).

Off-post discharge points of VOC contaminated groundwater include:
Off-post Groundwater (LEAD-076), Rowe Spring (LEAD-068), Helman Spring (LEAD-086), Helman Spring East (LEAD-087), Witmer Spring (LEAD-088), Nelson Spring (LEAD-096), Nelson Spring East (LEAD-104), Hawbaker Spring (LEAD-090), Dozens Spring (LEAD-091), and the three Chambers Springs (LEAD-095). The Army removed and remediated soil from LEAD-073 in 1996/1997. The Industrial Wastewater sewers were repaired and soils were removed/remediated at LEAD-074 in 1997.

SE OU 1 - K Area Contaminated Soils
• ER,A Related AEDB-R Site: LEAD-052.

SE OU 2 - IWWS and Contaminated Soils
• ER,A Related AEDB-R Sites: LEAD-074, 083.

SE OU 3A - On-post Groundwater DA Area
• ER,A Related AEDB-R Site: LEAD-081.

SE OU 3B - Groundwater Upgradient of the Southeast Disposal Area (Test Track (BRAC)
• BRAC Related AEDB-R Sites: LEAD-016, 115.

SE OU 4 - Storm Sewers and Contaminated Sediments
• ER,A Related AEDB-R Sites: LEAD-032, 072.
• BRAC Related AEDB-R Site: LEAD-034.

SE OU 5 - Area A and Area B Contaminated Soils
• ER,A Related AEDB-R Sites: LEAD-009, 079, 105.

SE OU 6 - SE Area Off-Post Contaminated Groundwater
• ER,A Related AEDB-R Sites: LEAD-068, 071, 076, 084, 086, 087, 088, 096, 104.
• BRAC Related AEDB-R Sites: LEAD-090, 091, 095.

SE OU 7 - Truck Open Storage Area/ Waste Oil Sumps
• BRAC Related AEDB-R Site: LEAD-080, 082.

SE OU 8 - Possible Waste Sites Being Investigated as Per the 1995 BRAC Decision
• BRAC Related AEDB-R Site: LEAD- 001, 002, 008, 023, 027, 033, 049, 060, 073, 092, 114, 116, 118, 119, 127, 130.

SE OU 9 - Landfill 2 (48-52) - Area J
• ER,A Related AEDB-R Site: LEAD-036.

SE OU 10 - Building 37 Southern Southeast Industrial Area (SSIA)
• BRAC Related AEDB-R Site: LEAD-100, 101, 128.

SE OU 11 - NSIA (IWTP Lagoon Area) Groundwater
• ER,A Related AEDB-R Site: LEAD-094 (RC), 131.

SE OU 12 - Landfill 5 (Area G)
• ER,A Related AEDB-R Site: LEAD-039.

SE OU 13 - Open Vehicle Storage Area (BRAC)
• BRAC Related AEDB-R Site: LEAD-114.

LEAD-009
Clay Lined FTA (Area B) (SE OU 5)

SITE DESCRIPTION

Area B is the former Clay-Lined Burning Pit that was used from the 1950s to the 1960s for disposal of oil, fuels, used paint, thinners, and other combustible materials. Aerial photographs from 1957, 1965, and 1970 showed a shallow liquid-filled excavation at this site. Area B soils consist primarily of clay. Fill material in Area B consists principally of soil and rock and is typically less than six feet thick. Leaching studies were used to determine the soil-to-groundwater partitioning coefficient. This site poses no adverse impact to groundwater.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: VOCs, SVOCs, Metals, PCBs

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199310	200503

RC DATE: 200503

The Draft RI Report for SE OU 5 was submitted to USEPA and PADEP on 19 November 1997. USEPA required that all data be validated before reviewing the report. Such data validation has been completed. The Final version of the RI/Risk Assessment Report was submitted to USEPA and PADEP in October of 2004. The production of the FS Report has been delayed; pending the completion of additional ecological sampling requested by the USEPA Biological Technical Assistance Group (BTAG) for Area A (LEAD 079). This sampling is scheduled for spring of 2006.

CLEANUP STRATEGY

Complete a PP and ROD (funded under LEAD-079 SE OU 5). No further RA is planned.

LEAD-052
Disposal Area Trenches (Area K) (SE OU 1)

SITE DESCRIPTION

The K-Areas were used for the disposal of liquid waste generated from LEAD activities. The K-1 area (or K-1 Lagoon) was used to dispose of waste solvents used in painting, paint stripping, and degreasing operations at LEAD. The K-1 Area was in use from 1957 to 1970. Its dimensions were approximately 200 x 50ft. The area of VOC-impacted soil was approximately 78 x189 ft.

The K-2 area was in use from 1965 to 1970 and included five (5) partially revetted areas used to accumulate solid waste prior to disposal into a nearby landfill. Its dimensions were approximately 270 x 75ft. It appears that when the K-1 lagoon was closed, some soil from K1 ended up at K-2. The area impacted at K-2 was 60 x 20 x ~10ft deep.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: POL, TCE, VOCs, Metals, PCBs

MEDIA OF CONCERN: Soil, Groundwater (OU 3)

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	198510	199207
RD	199211	199303
RA(C)	199307	199711
LTM	199807	203007

RC DATE: 199806

The K-3 area was in use as a drum storage area from 1965 to 1970 and covered an overall area of approximately 100ft by 40 ft. Based on available soil analytical data, the actual contaminated area was limited to a 50 x 50ft area. The K-areas were located in the DA of the Depot.

In 1983, a RI identified that the K-Areas contained high levels of VOCs. In 1989, a DA-wide soil gas investigation identified that high levels of VOCs existed in the vadose zone soils of the K-Areas. In 1992, the boundaries of the K-Areas were delineated. K-1 contained up to 5.5% TCE and lead up to 1.5%. PCBs and SVOCs were also discovered.

An Accelerated RA ROD was signed in August 1991. RA started in July 1993 and was completed in October 1995. The VOC-contaminated soils were excavated, treated with low temperature thermal desorption, returned to the site, and capped (geomembrane) as a Class II Residual Waste Landfill. Lead-contaminated soils were stabilized and returned to the site. The RA addressed all environmental concerns of this OU. VOC-contaminated groundwater at this site will be addressed by OU 3, Southeast On-post Contaminated Groundwater.

The Cap Maintenance and Inspection Plan was finalized in 2000. An explanation of significant differences (ESD) was completed April 2004 where the Army will implement land use controls (industrial use).

LEAD-052
Disposal Area Trenches (Area K) (SE OU 1), *cont.*

CLEANUP STRATEGY

LTM will be performed annually (Cap inspection; necessary maintenance). The first five-year review was completed in October 2001 and the second review will be completed in FY06. Site-wide ER,A well abandonment is funded under this site.

LEAD-081
SE Onpost Groundwater - IR (SE OU 3A)

SITE DESCRIPTION

OU 3 addresses on-post VOC-contaminated groundwater (LEAD-081). This OU has been broken down into two sections based on SE groundwater divides: 3A (Active), the DA; and 3B (BRAC), the Groundwater Upgradient of the Southeast Disposal Area. VOC-contaminated groundwater from this area discharges into six springs located up to 1.8 miles off-post. Rowe Spring is the primary receptor. SE OU 11 was developed to address the lagoon area, which is a different source from the DA area.

In the DA, 15,000 cy of VOC-contaminated soil were removed without visible effect on groundwater quality (K Areas).

The majority of the contamination still remains in the bedrock matrix. A Fenton's reagent injection pilot study was completed in July 1999. Earlier pilot studies of recirculating and in situ stripping were not as effective as the Fenton's reagent injection.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater

Phases	Start	End
PA	198001	198602
SI	198603	198902
RI/FS	198903	200708
RD	200808	200906
RA(C)	200906	201002
RA(O)	201002	201106
LTM	201107	204101

RIP DATE: 201002
RC DATE: 201106

Groundwater at this site impacts property potentially identified for early transfer under BRAC.

CLEANUP STRATEGY

A vapor intrusion pilot study is being conducted On and Offpost. The report will be completed May 2006. This pilot study was funded under LEAD-076 in FY05.

The Army is currently conducting a comprehensive analysis of all past sampling data, supplemented by one year of additional expanded sampling, including the installation of seven wells, in order to better and finally determine the likely net impact of further treatment on overall groundwater quality. The Army intends to provide this information in a groundwater data report (May 2006). This data will be presented in the FFS report.

The FFS for SE OU 3A and 11 is ongoing, with a proposed draft date of August 2006. In situ bedrock oxidation (Fenton's reagent) has been pilot tested at the site and will be evaluated as an alternative in the upcoming FFS for SE OU 3A. Pressurized ozone injection has been pilot tested at the site and will be evaluated as an alternative in the upcoming FFS for SE OU 11. If this analysis shows that there is a reasonable

probability that the benefits of further treatment are commensurate with these costs, active treatment will be further evaluated and implemented.

The date for the Draft PP is August 2007. The ROD is planned for signature in November 2008.

LEAD-076
SE Offpost Groundwater – IR (SE OU 6)

SITE DESCRIPTION

Various activities and past practices at LEAD have contaminated the SE on and off-post groundwater with VOCs. SE OU 6 was created in 1993 to address the off-post groundwater. SE On-post groundwater is being addressed by SE OU 3A and 11. On and Offpost groundwater are intimately linked.

Rowe Run Drainage: The former IWTP Lagoons (LEAD-013) were closed under RCRA. As required by Pennsylvania's RCRA law, a GWAAP was prepared.

The Draft GWAAP recommended the following response actions:

1. Groundwater monitoring
2. Source soils removal
3. Groundwater treatment
4. Treatment of Rowe Spring (off-post)

By 1993, the Army had completed items one through three. In 1993, a flow study of Rowe Spring (LEAD-068) commenced. A series of stream monitoring stations were installed above and below Rowe Spring to accurately measure spring flow. A final (99% confidence interval) flow of 1,680 gpm has been established for Rowe Spring. Helman (LEAD-086), Helman East (LEAD-087), and Witmer Spring (LEAD-088) contribute another 1,600 gpm. Nelson Spring (LEAD-096) and Nelson Spring East (LEAD-104) are ephemeral springs that contribute up to 200 gpm in periods of high groundwater. A Conceptual Design for the Rowe Spring Groundwater Treatment Plant was produced in June, 1996. Property acquisition was completed in 1998. A final design was produced in 1999. A pilot study using micro bubble in situ stripping was completed in June of 2000. This pilot showed that the flow of Rowe Spring could be treated in situ (reducing operating costs 75%).

A draft final RI/Risk Assessment was completed in summer of 2004. Further meetings will be scheduled to address any future BTAG issues or comments.

Starting in 1985, the Army provided public water to all residences whose drinking water supply exceeded an MCL.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater

Phases	Start	End
PA	198001	198602
SI	198603	199306
RI/FS	199310	200708
RD	200604	200906
RA(C)	200604	201002
RA(O)	201002	201106
LTM	201110	204101

RIP DATE: 201002
RC DATE: 201106

LEAD-076
SE Offpost Groundwater – IR (SE OU 6), *cont.*

CLEANUP STRATEGY

After the SE OU 6 RI/Risk Assessment is approved, FFSs for SE OU 3A and 11 will cover the final RA for off-post groundwater. A single ROD will be developed to cover SE OU 3A, 6 and 11 and will be funded under this OU. LEAD will continue to monitor groundwater to protect off-post well users. (SE OU 11 Onpost Groundwater is currently being treated (LEAD-131).

The Army is currently conducting a comprehensive analysis of all past sampling data, supplemented by one year of additional expanded sampling, including the installation of seven wells, in order to better and finally determine the likely net impact of further treatment on overall groundwater quality. The Army intends to provide this information in a groundwater data report (May 2006). Additional vapor intrusion work may be required in FY07, along with updating the offpost risk assessment and additional groundwater sampling to ROD. The final data will be evaluated and the Final RI will be updated. If this analysis shows that there is a reasonable probability that the benefits of further treatment are commensurate with these costs, the work will proceed.

If in situ treatment in the residual source area does not appear to be cost-effective, then it is likely that some point-of-use treatment (ex. in-situ air sparging) will be required at Rowe Spring. Estimated costs would be $200K for installation with annual operating costs up to $100K.

LEAD-131
IWTP Lagoon Groundwater (SE OU 11)

SITE DESCRIPTION

The original unlined lagoon was constructed in 1954 and operated until 1967. The lagoon was used as a settling/equalization basin for the IWTP. Over time, this process led to the generation of a sludge layer in the lagoon. Releases of sludge and untreated wastes from the unlined lagoon had occurred for an unspecified time period.

In 1967, a concrete-lined, two-cell lagoon was built over the existing bare earth lagoon. In 1992, the soil in the lagoon area was excavated and treated. The groundwater below the lagoon area is contaminated with VOCs. This on-post VOC-contaminated groundwater migrates off-post (see SE OU 6) and discharges eventually into Rowe Spring. In the NSIA (lagoon), 30,000 cy of VOC-contaminated soil were removed to bedrock, treated with LT3 technology and returned to the site. The majority of the VOC contamination exists within the bedrock matrix. A pilot (aqueous ozone injection) study was completed in November 1999, and did not prove to be effective. A pressurized ozone injection pilot study was completed in December 2000, and proved to be effective.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
PA	198001	198602
SI	198603	198902
RI/FS	198903	200708
IRA	198901	201010
RD	200808	200906
RA(C)	200906	201010
RA(O)	201002	201106
LTM	201107	204101

RIP DATE: 201010
RC DATE: 201106

The most common VOCs in the lagoon area are: chloroform, 1,2- dichloroethane, 1,1-dichloroethene, cis-, trans- 1,2- dichloroethene, methylene chloride, trichloroethene, and vinyl chloride.

A pilot study was completed in the winter of 2001 to determine the feasibility of remediating VOCs in the groundwater at the lagoons using in situ chemical oxidation (i.e., peroxone). The remedial strategy that was pilot-tested is based on in situ treatment of the VOC contaminated source bedrock with pressurized O_3. The pressurized O_3 increased the concentration of oxidant at the bedrock surface. Active remediation (i.e., oxidant introduction) would occur over a period of approximately three years. The oxidant distribution system is designed to place the oxidant solution specifically in the portions of the aquifer where groundwater passing through comes in contact with the aquifer matrix. This potential treatment alternative will be evaluated along with other alternatives in the FFS scheduled for 2007.

LEAD-131
IWTP Lagoon Groundwater (SE OU 11), *cont.*

Additional Information on the Direct Bedrock Peroxone Pilot Study at the IWTP Lagoons: Three injectors and six pilot wells were installed. A dye study and pre-pilot study VOC sampling was conducted. The pilot study ran from late November to late December 2001. Preliminary results indicated that this technology may work at the lagoons. Additional objectives of the pilot test were:

- Complete hydrogeologic testing to identify and evaluate site-specific aquifer parameters and assess the effectiveness of distributing fluids throughout the target extent of the aquifer. Among the items addressed were the following:
    - Interconnectivity of aquifer flow paths and rates of travel of non-reactive fluid
    - Determination of the initial injection flows for pilot oxidant fluids
    - Identification of the natural flow rates under the lagoons
    - Evaluate and optimize chemical oxidation system design and operation. Among the parameters to be assessed are the following:
        - Ability of oxidant to destroy COCs given matrix uptake
        - Number and configuration of injection and monitoring points
        - Injection fluid concentration and rate

The data from the pilot study will be used to further evaluate alternatives in the upcoming FFS planned for June 2006. The current Groundwater Treatment Plant (GWTP) is currently being used to treat VOC contaminated groundwater in the Lagoons Area. Its operation was a condition associated with the GWAAP and RCRA closure of the lagoon.

It currently does not appear to be having a significant positive impact on groundwater quality. Therefore, verification and comparison of the concept and comparison to other technologies are essential to formulating a practical, cost-effective remedial strategy for reaching site closure within a reasonable time frame.

During October 2002, the Army initiated an ozone persistence test. The draft report on this test was completed in October 2002. The final report was produced in 2004.

Fieldwork for the FFS (SE OU 11) is ongoing. Installation of additional On-post monitoring well was completed in the fall of 2005. Groundwater sampling has been conducted for high and low flow conditions. The final base flow condition sampling was completed in winter of 2005. Final analysis from the groundwater sampling effort is expected in 2006.

Once the fieldwork is completed the FFS reporting will begin. A FFS Addendum, Technical Infeasibility Report, and a FFS will be produced for SE OU 11.

The FFS will identify RAs (if any are technically feasible). It is the Army's position that no RA is feasible/practical/or possible unless the USEPA issues a Technical Infeasibility Waiver. Such waiver would be supported by the findings of the SE OU 11 Technical Infeasibility Report.

LEAD-131
IWTP Lagoon Groundwater (SE OU 11), *cont.*

CLEANUP STRATEGY

FFS Addendum, Technical Infeasibility, FFS Reports, PP, and ROD will be completed for SE OU 11. Pressurized ozone injection (over ~0.5 square miles with six injections over a three year period) combined with MNA is a potential alternative. However this alternative will be further evaluated along with other alternatives in the upcoming FFS. Groundwater pump and treat system identified as GWAAP is anticipated to continue until the start of the RA phase.

A vapor intrusion pilot study is being conducted On and Offpost. The report will be completed May 2006. This pilot study was funded under LEAD-076 in FY05.

The Army is currently conducting a comprehensive analysis of all past sampling data, supplemented by one year of additional expanded sampling, including the installation of seven wells, in order to better and finally determine the likely net impact of further treatment on overall groundwater quality. The Army intends to provide this information in a groundwater data report (May 2006). This data will be presented in the FFS report.

The FFS for SE OU 3A and 11 is ongoing, with a proposed draft date of August 2006. In situ bedrock oxidation (Fenton's reagent) has been pilot tested at the site and will be evaluated as an alternative in the upcoming FFS for SE OU 3A. Pressurized ozone injection has been pilot tested at the site and will be evaluated as an alternative in the upcoming FFS for SE OU 11. If this analysis shows that there is a reasonable probability that the benefits of further treatment are commensurate with these costs, active treatment will be further evaluated and implemented.

The date for the Draft PP is August 2007. The ROD is planned for signature in November 2008.

LEAD-039
Landfill 5 (64-?) (Area G), Security (SE OU 12)

SITE DESCRIPTION

This site is located in the AA. The area covers approximately five acres.

The LEAD IA identified this area as active from 1964 through 1978, when it was graded to match the existing terrain. The area was used for disposal of trash burning pit residue and IWTP sludge. Visibly contaminated leachate (metals) was reported to (and continues to) emanate from this site into a nearby stream. Aerial photographs from 1965 do not reveal landfilling activities at this site. However, aerial photographs from 1970 confirm disposal activities here. A retired LEAD worker had identified this area as containing buried drums.

Three retired employees stated that 5-60 feet from the back of the pistol range is where they bulldozed trenches and dumped drums of TCE from Building 350.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: VOCs, Metals

MEDIA OF CONCERN: Soil, Surface Water, Groundwater

Phases	Start	End
PA	198001	198602
SI	198001	199501
RI/FS	199810	200807
RD	200604	200907
RA(C)	200907	201005
LTM	201006	202006

RC DATE: 201005

A 1991 SI had identified several magnetic anomalies. In 1993, these anomalies were cross trenched. All anomalies were related to buried metallic objects. One area contained safe and empty buried drums that formerly contained caustics. Sampling indicated that these buried, empty drums had not caused a release to the environment. It is believed that this was the area the former employees referred to. Another anomaly contained an area of paint cans and solvent containers. A RA was performed in this area.

The 1995 SI Follow-on Report identified this site as requiring a RI. A Work Plan was submitted in the summer of 2002 and issues with the contractor performing this work caused the contract to be cancelled. A new contractor came on board in 2005. The Draft Workplan is currently under regulatory review. Field work is anticipated to begin in the summer of 2006.

CLEANUP STRATEGY

The RI fieldwork is expected to start summer 2006. The RI fieldwork will consist of test trenching and installation of monitoring wells, groundwater, surface water, and seep sampling. Possible remedies for the leachate issue would be the construction of a small wetlands/retention pond to gather the leachate. LTM will include monitoring of three wells annually for limited analytes.

LEAD-036
Landfill 2 (48-52) (Area J) (SE OU 9)

SITE DESCRIPTION

Landfill J (OU 9) had initially been identified in the 1980 IA. One area (South of Building 320) was determined to contain VOC soil contamination. The 1993 SE OU 3 RI Report concluded that Landfill J did not exist. In the winter of 1995, a private contractor was installing a water line extension behind Building 320 and encountered garbage. In January 1996, exploratory excavations were conducted behind Building 320. These excavations determined that this area contained a landfill. Excavated materials included medical waste, drugs, laboratory chemicals, and old engine and vehicle parts. One shallow area was mainly composed of construction debris. This area was thought to have been created from left over materials from the construction of Building 320. It was noted that shallow groundwater preferentially flows from the Vehicle Storage Area (shale) into the waste layer before draining into the underlying limestone bedrock.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Soil (Groundwater OU3)

Phases	Start	End
PA	198001	198602
SI	198001	198602
IRA	200107	200108
RI/FS	199101	200707

RC DATE: 200707

A soil gas survey was conducted in July 2000. TCE was found in a specific area. Cross trenching and sampling was conducted in August 2000 to delineate the area (~1,200 cy).

Data validation efforts for this OU are completed.

Through sampling and analysis at Area J, a "hot spot" of TCE was identified in the northern portion of Area J. A hot spot removal occurred in July 2001 from two (2) different areas. The materials in one area was identified and disposed of as hazardous waste (D040 and D008). The materials in the other area was identified and disposed of as non-hazardous waste. These areas were remediated to levels below the soil to groundwater pathway and Industrial RBCs. This area is currently used to store military vehicles.

CLEANUP STRATEGY

The RA Completion Report Draft was submitted in June 2002. The Final Removal Action Summary Report was completed December 2005. No further action is expected. A PP and ROD (Funded in FY04) is expected to be completed in FY07 following the RI/FS.

LEAD-079
Waste Disposal Trenches Area A (SE OU 5)

SITE DESCRIPTION

Area A consists of a relatively flat open field, approximately four acres in size that was previously used for disposal of industrial waste. Materials disposed included sludge and blast media. The site was covered by soil containing shale, sand, gravel, rock fragments, metal debris, ash, sand-blasting abrasive, paper products, wood debris, glass, wire, rubber, and other miscellaneous wastes. Aerial photographs from 1957 and 1961 show the presence of a series of open disposal trenches. Area A was reported to consist of three waste trenches used for disposal of sludge in the DA.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: PAH, POL, Metals, PCBs

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
IRA	199607	199608
RI/FS	199310	200609

RC DATE: 200609

Additional investigation has determined that Area A is ten times larger than originally thought. Delineation efforts were conducted in 1994 and 1995. Area A contains up to .8% SVOCs (polyaromatic hydrocarbons (PAH) fraction). Soils at Area A consist primarily of a clay-rich top soil veneer underlain by fill materials. The Army performed an Emergency Removal in 1996 on a small area (Spill Area in Area A) that had been used to dispose of laboratory containers of chemicals. The Spill Area in Area A was the source of the VOC groundwater “hot spot” in Area A.

Data validation has been completed for the OU 5 analytical data, and the Draft Final version of the RI/Risk Assessment Report was submitted to USEPA and PADEP in 2001. Additional sampling was performed in 2002. The production of the FS Report has been delayed; pending the completion of additional ecological sampling requested by the USEPA BTAG for Area A (LEAD 079). This sampling is scheduled for spring of 2006.

CLEANUP STRATEGY

No further RA is expected. The reports for LEAD-009/072/105 have been funded under this site and no future funding is required.

Overview of the AMMO Area

Eight potential waste sites at LEAD were originally identified as Solid Waste Management Units (SWMUs) under RCRA. After further reflection the Army and the regulators determined that these sites were regulated under CERCLA. They have been historically called the AA SWMUs. These sites are scattered throughout the Depot. A SI report (EA 1991) was finalized in the summer of 1991. This SI identified eight sites that needed additional investigation before a decision could be made on them.

The AA SWMU SI Follow-on (ERM 1995) addressed these eight IRP sites:
- The Transformer Pad (LEAD-055) (BRAC Related) in the SE.
- The Ingot Storage Area Lot 48 (LEAD-060) (BRAC Related) in the SE.
- Buried Drum Site Two (LEAD-066) PDO. (LEAD-093) (BRAC is addressing this site)
- Neutralization Pit (LEAD-042) AA.
- Demolition Ground Two (LEAD-046) AA.
- TNT Washout Plant (LEAD-050) AA.
- Burning Ground Two (LEAD-053) AA.
- Buried Drum Site One (LEAD-065) AA.

For six of these sites, a RI was recommended:

Two of these sites lay within the BRAC footprint and were addressed by BRAC as follows:
- The Ingot Storage Area Lot 48 (LEAD-060). SE OU 8
- Buried Drum Site Two (LEAD-066) addressed by (LEAD-093) Old PDO Scrap Yard. PDO OU 6.

Government Retention: The other four lay within the AA:
- Demolition Ground Two (LEAD-046) AA. RCRA Subpart X Application ongoing. IRP would address any down gradient historical contamination.
- Burning Ground Two (LEAD-053) AA. RCRA Subpart X Application ongoing. IRP would address any down gradient historical contamination.
- TNT Washout Plant (LEAD-050) AA.
- Burning Ground Two (LEAD-053) AA.

RI scheduled for 2006
- Landfill G (LEAD-039) SE OU 12 – located in the AA. RI field work starts in 2006. See SE Section above for details.

LEAD-050
TNT Washout Plant (AMMO Area)

SITE DESCRIPTION

This site was used from 1948 to 1962 to wash trinitrotoluene (TNT) out of projectiles and reclaim TNT. The original plant consisted of a closed system that filtered the process water through sawdust and wood shavings. Although the plant was considered a closed system, some filtered wastewater was released to a nearby intermittent stream via overflow valves on the storage tank.

An upgraded facility operated from 1969 to 1975 and also used a closed system that filtered rinse water through sawdust, fiberglass, and activated charcoal. The water was then stored in a storage sump for reuse. Interviews conducted of LEAD employees that had worked at the TNT washout plant stated that once a month (during operational periods) the large storage water sump was pumped into a ditch beside the building using a pump and a fire hose. Later, a piping system was plumbed into the building to perform this task.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN: Explosives

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
PA	198001	198602
SI	199005	199501
RI/FS	200604	200904
RD	200905	200909
RA(C)	201004	201009
LTM	201009	202009

RC DATE: 201009

Operations ceased at the TNT Washout Plant in 1975. In 1981, the wastewater (7,500 gallons) and sediments in the sump were sampled and found to contain explosives. The sump was emptied, cleaned, and the materials disposed.

The 1991 SI detected explosives in the soil and groundwater. The 1995 SI follow-on investigation detected cyclotrimethylenetrinitramine (RDX) (four feet below ground surface at a concentration of 0.946 micrograms per gram in soil which is below the health-based screening levels. The following concentrations of RDX (6.28 micrograms per liter (ug/l)); 2,4-dinitrotoluene (0.466 ug/l) and 2,4,6-TNT (8.16 ug/l) were detected in groundwater. The report recommended that a RI be performed to completely delineate the explosives contamination and assess groundwater risk.

CLEANUP STRATEGY

Complete the RI/FS. It may be necessary to perform a RA that includes the removal of approximately 3600 cy of contaminated soil. Site LEAD-053 is being funded under LEAD-050 – TNT Washout.

LEAD-053
BURNING GROUND 2 (SWMU 58) (AMMO Area)

SITE DESCRIPTION

Burning Ground 2 is located adjacent to Demolition Ground No. 2. The site reportedly became operational in 1945 and is currently in RCRA Interim Status. A RCRA Subpart X Application has been filed for this site.

Since then, a change in the process had occurred dating back to 1985. The southern portion of the site, the pan area, has been used to burn propellant in pans. Residue in the pans is drummed, characterized, and disposed off-site. The northern portion of the site, the rail area, has not been used to burn projectiles for ten or more years.

In the past, propellant had been burned directly on the ground and the residue buried at the Residue Burial site. Diesel fuel was reportedly used to promote burning. A northwest southeast trending shallow drainage swale separates the rail area from the pan area. Drainage in the swale flows toward the northwest.

Metals and explosives above screening levels were discovered in runoff samples. Metals were detected above screening levels in soil (lead) and manganese was detected in groundwater. Explosives in soils and groundwater did not exceed screening values. Metals in soil are the primary concern.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN: Metals, Explosives

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	199007
SI	199005	199501
RI/FS	200606	200904

RC DATE: 200904

CLEANUP STRATEGY

A RI/FS will be completed up to the Offpost Louisiana run with no further action anticipated. This site is being funded under LEAD-050 – TNT Washout.

IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
LEAD-003	Building 1	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 086).	199407
LEAD-004	Building 350	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 086).	199407
LEAD-005	Building 351	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 086).	199407
LEAD-006	Building 370	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 086).	199407
LEAD-007	Building 349	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 086).	199407
LEAD-013	Lagoons/Area D/Bldg 360	These Lagoons, constructed as part of industrial waste treatment plant, underwent a RCRA closure and removal of VOC contaminated soils using a low temperature thermal treatment. Results of the investigation did not warrant any additional action. The thermo treatment showed to be a success. The low thermo temperature report (Feb. 1993) closes out the soil issue at the lagoons. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNY LIBRARY/Document # (LKD.RT – 081).	199211

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
LEAD-014	Building 3700 Chemical Lab SS	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 060; page 8-64).	199105
LEAD-015	Acid Burning Pits	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 060; page 8-1).	199105
LEAD-017	Projectile Range	Study Completed, No Cleanup Required.	198602
LEAD-018	CS Test Site	Study Completed, No Cleanup Required.	198602
LEAD-019	Weapons Storage Area, Igloos	Study Completed, No Cleanup Required.	198602
LEAD-020	Building 11 Storage of Rad Items	Study Completed, No Cleanup Required.	198609
LEAD-022	Building 3223 Rad Disposal Storage	Study Completed, No Cleanup Required.	198609
LEAD-024	Two Revetments in PDO Area	Study Completed, No Cleanup Required.	199108
LEAD-025	Previous Pesticide Area, Building G	Study Completed, No Cleanup Required.	199212
LEAD-028	Small Sewage Treatment Plant	Study Completed, No Cleanup Required.	198602
LEAD-030	Digested Sludge Spread on Ground	Study Completed, No Cleanup Required.	199111
LEAD-031	Bldg 2357 Lndry for Ordinance Compounds	Study Completed, No Cleanup Required.	198609
LEAD-032	Industrial Waste Ditch (Rowe Run)	Study Completed, No Cleanup Required.	199611
LEAD-033	Sediment Burial Site (Area F)	Site was thought to be in the BRAC Excess Parcel. However, BRAC RI/FS found no evidence of soil contamination. Therefore it is	200408

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
		felt that the Weston Soil removal in 1997 adjacent to the IWTP Outfall Ditch was the actual location of Area F. SE OU 2 ROD will document this decision.	
LEAD-035	Landfill 1 (41-48) (Areas H & I)	Study Completed, No Cleanup Required.	199308
LEAD-038	Landfill 4 (56-64) (Area C)	Study Completed, No Cleanup Required.	199407
LEAD-041	Burial Area for Beryllium Phos Tubes	Study Completed, No Cleanup Required.	199407
LEAD-042	Neutralization Pit	Study Completed, No Cleanup Required.	199504
LEAD-043	Residue Burial Site (SWMU 57)	Study Completed, No Cleanup Required.	199105
LEAD-045	Demo Ground	Study Completed, No Cleanup Required.	199105
LEAD-046	Demo Ground 2	This site is an active site and is not eligible for ER,A funding at this time.	199501
LEAD-047	Burning Ground 1 (SWMU 56)	Study Completed, No Cleanup Required.	199105
LEAD-049	Oil Burning Pit Used in 70's (Area E)	Site was thought to be in the BRAC Excess Parcel. However, BRAC RI/FS found no evidence of soil contamination. Therefore it is felt that the Weston Soil removal in 1997 adjacent to the IWTP Outfall Ditch was the actual location of Area F. SE OU 2 ROD will document this decision.	200409
LEAD-051	Deactivation Furnace	Study Completed, No Cleanup Required.	199108
LEAD-054	Ammunition Box Piles	Study Completed, No Cleanup Required.	199105
LEAD-056	Residue Drum Storage, Ammunition Area	Study Completed, No Cleanup Required.	199007
LEAD-057	Waste Oil UST – Auto Shop, Building 3238	UST removed in October 1992. Study Completed, No Cleanup Required.	199007
LEAD-058	Classified Paper Incinerator, Bldg 1	Study Completed, No Cleanup Required.	199007
LEAD-061	Ore Pile Locations (DA Area)	Study Completed, No Cleanup Required.	199407

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
LEAD-062	Guilford Alternate Water System, Offpost	All Required Cleanup(s) Completed.	199407
LEAD-064	Storage Area – Bldg 1467	The DD which closed out PDO OU 3 was signed stating that “No Further Action is Planned” on February 16, 2000.	200002
LEAD-065	Buried Drum Site #1	Results of the investigation did not warrant any additional action. The RI report of the southeast area (June 1993) closes this site out. ESE produced this report. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 060; page 8-64).	199501
LEAD-067	Rocky Spring Lake Mercury	DD – Mercury detection in Rocky Spring Lake; PDO - OU 3 area. February 2000 document closes out this site. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 167)	200002
LEAD-068	Rowe Spring	Onpost VOC contaminated groundwater has migrated offpost to residential wells and springs. All off post springs in the SE area related to Groundwater contamination (LEAD-068, 084, 086, 087, 088, 096 and 104) are currently funded under LEAD-076 (SEOU6). As a result the spring sites have been closed and will be addressed and funded under LEAD-076. RA for groundwater contamination is anticipated and will be addressed as part of source areas SEOU3 (LEAD081) and SEOU11 (LEAD131).	200409
LEAD-069	Carty Well	This site was closed in AEDB-R since all future work is being funded under LEAD-077 (PDO OU 2).	200503
LEAD-070	Rocky Spring (Mercury)	DD – Mercury detection in Rocky Spring Lake; PDO - OU 3 area. February 2000 document closes out this site. Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 167)	200002
LEAD-071	Rowe Run Drainage Farm Sampling	There was no definable pattern of elevated VOCs in tissues from the study area where groundwater is VOC contaminated compared with animals from the background area. April 1996 document closes out this site. The following final report documents the study results. Addendum to the RI of the Southeast Area at LEAD – Rowe Run Farm Animal	199605

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
		Products (Final Report). Report can be found on LEAD library site http://216.134.203.11/LETTERKENNYLIBRARY/ Document # (LKD.RT – 123)	
LEAD-072	Storm Water Sewers (SE OU 4)	The final ROD was signed June 2005. No further remedial action is planned.	200507
LEAD-074	Industrial Sewers - IR (SE OU 2)	Currently the army is responding to the draft ROD comments. Expect signing of ROD in spring 2006.	200509
LEAD-083	Industrial Waste Sewers – Soils – IR	Currently the army is responding to the draft ROD comments. Expect signing of ROD in spring 2006.	200509
LEAD-084	Off SE Residential Well Study (Metals)	Onpost contaminated groundwater has migrated offpost. Issue that some wells had elevated metal levels. It was proven that plumbing caused LEAD problem not Letterkenny. All future issues relating to off-post SEOU6 Groundwater will carried under site LEAD-076. As a result this site has been closed and will be addressed and funded under site LEAD-076.	200409
LEAD-086	Helman Spring	Onpost VOC contaminated groundwater has migrated offpost to residential wells and springs. All off post springs in the SE area related to Groundwater contamination (LEAD-068, 084, 086, 087, 088, 096 and 104) are currently funded under LEAD-076 (SEOU6). As a result the spring sites have been closed and will be addressed and funded under LEAD-076. RA for groundwater contamination is anticipated and will be addressed as part of source areas SEOU3 (LEAD081) and SEOU11 (LEAD131).	200409
LEAD-087	Helman Spring East	Onpost VOC contaminated groundwater has migrated offpost to residential wells and springs. All off post springs in the SE area related to Groundwater contamination (LEAD-068, 084, 086, 087, 088, 096 and 104) are currently funded under LEAD-076 (SEOU6). As a result the spring sites have been closed and will be addressed and funded under LEAD-076. RA for groundwater contamination is anticipated and will be addressed as part of source areas SEOU3 (LEAD081) and SEOU11 (LEAD131).	200409
LEAD-088	Witmer Spring	Onpost VOC contaminated groundwater has migrated offpost to residential wells and springs. All off post springs in the SE area related to Groundwater contamination (LEAD-068, 084, 086, 087, 088, 096 and 104) are currently	200409

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
		funded under LEAD-076 (SEOU6). As a result the spring sites have been closed and will be addressed and funded under LEAD-076. RA for groundwater contamination is anticipated and will be addressed as part of source areas SEOU3 (LEAD081) and SEOU11 (LEAD131).	
LEAD-094	Building 349, Sump	This site was closed in AEDB-R since all future work will be covered under LEAD-131 (SE OU 11).	200503
LEAD-096	Nelson Spring	Onpost VOC contaminated groundwater has migrated offpost to residential wells and springs. All off post springs in the SE area related to Groundwater contamination (LEAD-068, 084, 086, 087, 088, 096 and 104) are currently funded under LEAD-076 (SEOU6). As a result the spring sites have been closed and will be addressed and funded under LEAD-076. RA for groundwater contamination is anticipated and will be addressed as part of source areas SEOU3 (LEAD081) and SEOU11 (LEAD131).	200409
LEAD-097	Allen Well	This site was closed in AEDB-R since all future work will be covered under LEAD-077.	200503
LEAD-098	Rocky Spring Springhouse	This site was closed in AEDB-R since all further work will be addressed under LEAD-107.	200503
LEAD-104	Nelson Spring East	Onpost VOC contaminated groundwater has migrated offpost to residential wells and springs. All off post springs in the SE area related to Groundwater contamination (LEAD-068, 084, 086, 087, 088, 096 and 104) are currently funded under LEAD-076 (SEOU6). As a result the spring sites have been closed and will be addressed and funded under LEAD-076. RA for groundwater contamination is anticipated and will be addressed as part of source areas SEOU3 (LEAD081) and SEOU11 (LEAD131).	200409
LEAD-105	Spill Site Within Area A	This site has been closed in AEDB-R since all funding and future actions related to this site are being covered under site LEAD-79	200503
LEAD-106	DRMO Scrapyard – PCB's Metals, Asbestos	This site was closed in AEDB-R since all future work will be addressed under LEAD-077.	200503

IRP Schedule

Initiation of IRP: 1979

Past Phase Completion Milestones

1980
• Installation Assessment, January 1980

1981
• PA/SI, January 1981

1984
• RI/FS (LEAD), February 1984

1986
• RI DA, August 1986

1987
• RI SE, December 1987

1988
• EA SE, September 1988
• FS SE (OU 1), September 1988

1989
• FS SE (OU 2), May 1989
• FFS SE/PDO, August 1989

1993
• RD OU 1 (K Area), March 1993
• RI SE (OU 3) Final, June 1993
• Start K Area RA, July 1993

1994
• RA SE OU 3 (Final), August 1994
• ER IWWS Start, October 1994
• FS SE (OU 3) Final, November 1994

1995
• FFS SE (OU 3) (DA/NSIA), April 1995
• Complete K Area RA, October 1995
• ER IWWS Completion, December 1995
• FFS SE (OU 3) (SSIA), March 1996

1996
• Farm Animal Study Report (Final), April 1996
• RI SE OU 7 (Final), April 1996
• EE/CA SE OU 2 (Final), April 1996

1997
- SE Area OU 7 truck Open Storage Area Waste Removal Complete, March 1997
- Rowe Run Contaminated Sediments Removal Action complete, May 1997
- Spill Area Soils (Area A) Removal Complete, July 1997
- Waste Area/Waste Oil Sump Final SI Report, July 1997
- IWWS SE OU 2 Soils/ Isolated Soils, August 1997

Past Phase Completion Milestones - PDO Area

1988
- EA PDO, February 1988
- FS PDO, August 1988

1991
- PP (OU 1) PDO, June 1991
- ROD (OU 1), August 1991

1993
- RI PDO (OU 1&2) Final Report, January 1993
- RA PDO (OU 1&2) Final Report, June 1993
- FS PDO (OU 1&2) Final Report, December 1993

1995
- PP PDO (OU 1&2) Final Report, February 1995
- PM PDO (OU 1&2) Final Report, March 1995
- (PDO OU 1&2 RI) Carty Well Addendum, June 1995
- (PDO OU 1&2 RI) Mercury in Rocky Spring Lake Addendum, June 1995
- (PDO OU 1&2 RI) Off-post Residential Wells (Metals) Addendum, June 1995

1996
- ROD PDO (OU 1&2) Draft-Final, April 1996
- PDO OU 3 SI Completion, June 1996

1997
- PDO OU 2 Revised ROD to USEPA/PADEP, May 1997
- PDO OU 4 Draft RI to USEPA/PADEP, May 1997
- PDO OU 4 Oil Burn Pit Revised tech plan to PADEP/USEPA, June 1997
- PDO OU 4 Oil Burn Pit Complete Hydrogen Peroxide Injection, August 1997
- PDO OU 4 Confirmation Sampling Complete, November 1997
- PDO OU 5 Draft Final Work Plan to USEPA/PADEP, August 1997

1999
- PDO OU 5 Final Document Remedial Action PCB Removal, March 1999
- In Situ Chemical Oxidation Remediation Pilot Study of Bedrock Aquifer, June 1999
- Endangered Species Act of 1973 - Bio. Assessment Report (Bog Turtle), August 1999
- Tear Gas Cylinder Test Trench Investigation - Final Document, December 1999

2000
- PDO OU 3 Decision Document DRMO Scrap Yard, February 2000
- PDO OU 3 Decision Document Mercury Detection in Rocky Spring Lake, February 2000

Past Phase Completions - RCRA Closures

1990
- GWQA, February 1990

1991
- RCRA Closure Plan, September 1991

1992
- IWTP Lagoons Closure, November 1992

1993
- Lagoon Closure Report (Final), September 1993

1995
- Rowe Spring GWTP Site Selection, December 1995

1996
- Rowe Spring GWTP Property Acquisition, March 1996

1997
- Rowe Spring Groundwater Treatment System:
  (Deed transfer from private property owner to Army), December 1997

Past Phase Completion Milestones - AA Closures

1991
- SI AA SWMUs (Final), November 1991

1993
- Field Work Completed, September 1993

1995
- SI Follow on (Final), January 1995

Projected ROD/DD Approval Dates:
- DD, DRMO Scrapyard, PCB's – 2006
- ROD, AMMO Landfill 5 (64-?) (Area G) Sec – 2006
- ROD, PDO OU 5 Rocky Spring Springhouse – 2006
- ROD, SE OU 9 Landfill 2 (48-52) – Area J – 2006

- ROD, AMMO Burning Ground 2 (SWMU 58) – 2007
- ROD, SE OU 5, Areas A & B – 2007
- ROD, SE OU 6 Offpost Groundwater – 2008
- ROD, AMMO DEMO Ground 2 – 2008
- PDO OU 4 – OBP, LEAD-010 – 2008
- ROD, AMMO TNT Washout Plant – 2008
- ROD, SE OU 3A SE Onpost Groundwater – IR – 2008-2011
- ROD, PDO OU 5 Rocky Spring PCB Sediments – 2009
- ROD, PDO OU 2 Rocky Spring Lake (VOC) – 2016

Projected Construction Completion Date of IRP and Removal from NPL: 2010 & 2034

Schedule for Next Five Year Review: 2006

Estimated Completion Date of IRP (including LTM phase): 2041

LETTERKENNY AD IRP SCHEDULE

(Based on current funding)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
PDO Area										
LEAD-029	RI/FS									
	RA(O)									
	LTM									*201507*
LEAD-077	RI/FS									
	RA(O)									
LEAD-107	RI/FS									
	RA(O)									
SE Area										
LEAD-052	LTM									*203007*
LEAD-081	RD									
	RA(C)									
	RA(O)									
	LTM									*204101*
LEAD-076	RI/FS									
	RA(O)									
	LTM									*204101*
LEAD-131	IRA									
	RD									
	RA(C)									
	RA(O)									
	LTM									*201401*
LEAD-039	RA(C)									
	LTM									*202006*
AMMO Area										
LEAD-050	RI/FS									
	RD									
	RA(C)									
	LTM									*202006*

Prior Years Funds

Total Funding up to FY04: $112,492K (this amount includes Active and BRAC)

FY05 Active Prior Year Funds

Site Information	Expenditures	FY Total
LEAD-029 - RI	$24.0K	
LEAD-039 - RI	$424.1K	
LEAD-050 - RI	$25.0K	
LEAD-052 - LTM	$8.0K	
LEAD-053 - RI	$100.0K	
LEAD-074 - RI	$25.0K	
LEAD-076 - RI	$210.0K	
LEAD-077 - RI	$34.0K	
LEAD-081 - RI	$300.0K	
LEAD-107 - RI	$5.0K	
LEAD-131 - IRA	$290.0K	
LEAD-131 - RI	$350.0K	**$1,795.1K (Active)**

FY05 BRAC Prior Year Funds: **$1,180.0K**

Total Prior Year Funds: **$115,467.1K (Active + BRAC)**

Current Year (FY06) Requirements (Active)

Site Information	Requirements	FY Total
LEAD-029 - RI	$5K	
LEAD-039 - RA(C)	$400K	
LEAD-039 - RD	$40K	
LEAD-050 - RI	$320K	
LEAD-052 - LTM	$3K	
LEAD-053 - RI	$220K	
LEAD-077 - RI	$10K	
LEAD-107 - RI	$5K	
LEAD-131 - IRA	$314K	**$1,317K (Active)**

Total Future Requirements: **$11,257.0K (Active)**

Total IR Program Cost *(from inception to completion of the IRP):* **$128,041.1K (Active + BRAC)**

LETTERKENNY ARMY DEPOT

Base Realignment and Closure Program

Total AEDB-R Sites/RC Sites: 52/32

Different Site Types

2 Burn Areas
1 Fire/Crash Training Area
4 Contaminated Buildings
1 Contaminated Soil Pile
1 Contaminated Fill
8 Contaminated Groundwater
3 Contaminated Sediments
1 Surface Disposal Area
2 Disposal Pit/ Dry Wells
2 Dip Tanks
1 Leach Field
4 Landfills
1 Washrack
15 Storage Areas
1 Storm Drain
1 Spill Site Area
1 UST
1 Waste Line
1 Radioactive Waste Area
1 Waste Treatment Plant

Most Widespread Contaminants of Concern:
VOCs, Metals, PCBs, POL, SVOCs, Dioxins, Radiological Media, Pesticides

Media of Concern: Groundwater, Soil, In-door building surfaces

Complete REM/IRA/RA: LEAD-034, 037, 060, 063, 073, 080, 082, 089, 093, 110, 113, 114, 128

Total BRAC Funding

Prior years (up to FY05): .....$115,467.1K(Active + BRAC)
Current Year Funding (FY06):.....$ 557.0K
Future Requirements (FY07+): ...$ 893.0K
Total: **$116,917.1K**

Duration of IRP

Year of BRAC Inception: Oct 1996 – BRAC IV
Year of RIP/RC: 2010/2015
Year of IRP Completion including LTM: 2020

BRAC Contamination Assessment Overview

Based on findings presented in the IA report (USATHAMA, 1980), it was concluded that the materials associated with LEAD activities, past disposal practices, and the complex nature of the hydrogeologic regime offered significant potential for environmental contamination and contaminant migration.

In 1983, volatile organic hydrocarbon contamination of the groundwater was confirmed in the SE.

In July of 1987, the Southeast Area of LEAD was listed on the NPL (with a HRS Score of 34.21). In March of 1989, the PDO Area at LEAD was added to the NPL list of federal facilities (with a HRS Score of 37.51). On Feb. 3, 1989, a Federal Facility IAG was signed, which laid the groundwork for the CERCLA and RCRA actions at LEAD. A comprehensive RI was produced for each site. USEPA is the lead regulator at LEAD for CERCLA response actions. PADEP signed the IAG due to the RCRA-regulated closure of the IWTP lagoons. The IAG divided LEAD into three areas for the purpose of environmental investigation:

• SE is composed of the SIA and the DA
• PDO Area
• AA

The SE Area and the PDO Area are NPL sites. (See SE -PDO Divide map on the following page) The AA is used for the storage, repair, testing, and disposal of ammunition.

The Letterkenny BRAC property is underlain by VOC contaminated groundwater. The sources of the VOCs are the solvents that were used for degreasing in the various missions at Letterkenny. Groundwater OUs that impact the BRAC property transfer are:

- PDO OU 2
- PDO OU 4
- SE OU 3A
- SE OU 3B
- SE OU 10
- SE OU 11

SE OU 3A and SE OU 11 are managed by the ER,A program. For each OU remedies have to be in place and operating properly and successfully before the property can be transferred.

As part of PDO OU 6 and SE OU 8 several sites had soil investigations completed in order to clear the sites for property transfer. Some sites that were used for disposal or burning operations undergoing investigations are the OBP LEAD-010, Pad 5 Landfill LEAD-037, Open Trench Landfill LEAD-040, Transfer Burning Revetments LEAD-048, and the Old PDO Scrapyard LEAD-093.

Overview of the PDO Area

The PDO has three OUs within the BRAC Parcel:

PDO OU 4 - Soil, Sediment and Groundwater associated with the OBP

- PDO OU 4 addresses the soil, sediment and groundwater associated with the OBP. The OBP was used for fire training purposes by the Letterkenny Fire Department. Solvent ladened oils and gasoline/diesel fuel were dumped into the OBP and set ablaze for fire training.
- Until 2003 the site conceptual model had the groundwater from OBP discharging north solely into the AA. However, groundwater sampling results from 2004 showed 1,1,1 TCA and 1,4-dioxane migrating south into PDO OU 2. Additional groundwater studies are underway to further delineate the groundwater plume and its extent into the upper PDO. RI/FS, Risk Assessment, PP, and ROD will be completed at the end of the groundwater studies.
- BRAC Related AEDB-R Sites: LEAD-010, 078.

PDO OU 6 - Possible Waste Sites Being Investigated as Per the 1995 BRAC Decision

- Groups several sites within the PDO Area NPL site requiring soil investigations in order to transfer the property to LIDA.
- BRAC Related AEDB-R Sites: LEAD-025, 026, 037, 040, 044, 048, 093, 110, 111, 112, 113, 117, 129. Multiple Parcels.

PDO OU 7 Open Vehicle Storage Area (BRAC)

- Covers all Open Vehicle Storage Areas within the PDO Area NPL site. Vehicles used to be stored wet (gasoline, diesel, antifreeze, oil, hydraulic fluid). IRA completed in 2000.
- BRAC Related AEDB-R Site: LEAD-110. (Phase III Parcel)

SE OU 7 - Truck Open Storage Area/ Waste Oil Sumps

- Site was used to drain fluids from vehicles into septic tank and discharge into septic field. IRA completed in 1997 and 2000. Sludge removed from septic tank in 1997. Soil removed in 2000.
- BRAC Related AEDB-R Site: LEAD-080, 082.

SE OU 8 - Possible Waste Sites Being Investigated as Per the 1995 BRAC Decision

- Groups several sites within the SE Area NPL site requiring soil investigations in order to transfer the property to LIDA
- BRAC Related AEDB-R Site: LEAD- 001, 002, 008, 023, 027, 033, 049, 060, 073, 092, 114, 116, 118, 119, 127,130.

SE OU 10 - Building 37 (SSIA) Groundwater

- Addresses the VOC contaminated groundwater that originated from Building 37 leaking industrial sewer lines. Various processes used VOC containing solvents for degreasing purposes. In the early 1990s it was discovered that the gravity sewer laterals that served Building 37 were leaking. Solvent laden wastewater leaked into the ground and subsequently impacted the underlying groundwater.
- BRAC Related AEDB-R Site: LEAD-100, 101, 128.

SE OU 13 - Open Vehicle Storage Area (BRAC)

- Covers all Open Vehicle Storage Areas within the PDO Area NPL site. Vehicles used to be stored wet (gasoline, diesel, antifreeze, oil, hydraulic fluid). IRA completed in 2000.
- BRAC Related AEDB-R Site: LEAD-114. Phase IV Parcel.

Description of Major BRAC Program Concerns

Remedies for GW OUs need to be implemented before remaining property can be transferred.

SE OU 3B – VOC Contaminated Groundwater. RI showed that VOCs were not a contaminant of concern. A No Action ROD planned for April 2006. This will support the Phase IV transfer

SE OU 10 – VOC contaminated groundwater originating from Building 37. ROD planned for April 2006. Selected remedy will be enhanced biodegradation. This will support the Phase V transfer.

PDO OU 2/4 – VOC contaminated groundwater originating from the OBP. Additional groundwater studies under way to further delineate plume migrating from OBP. Groundwater remedy will need to be selected to support Phase VI Transfer. Tentative schedule for remedy is FY08.

BRAC Program Cleanup Exit Strategy

NOTE: As the Final FY 06 IAP was going to print, due to mission changes and force protection issues the Army has entered into negotiations with the Letterkenny Industrial Development Authority to retain/reacquire 240 acres of previously declared excess property under BRAC 95. The 240 acres comprise portions of the Phase II, IV, VI, VII, and VIII transfers. The final results of these negotiations will be reflected in the FY 08 IAP environmental cleanup and transfer strategies.

Phase IV Property Transfer (60 acres)

The Phase IV Parcels are underlain by the SE OU 3B groundwater. Groundwater was determined to be unimpacted by any VOCs. A No Further Action ROD is scheduled for signature in April 2006. FOST (Finding Of Suitability to Transfer) is scheduled for April 2006. Phase IV Property Transfer is scheduled for 1st Quarter FY 2007.

Phase V Property Transfer (105 Acres)
The Phase V Parcels are underlain by the SE OU 10 VOC contaminated groundwater. The proposed remedy for the SE OU 10 groundwater is Enhanced Biodegradation. The SE OU 10 ROD will be signed in April 2006. There are several soil investigations ongoing for multiple sites within the Phase V Parcels. The Phase V ROD closing out the multiple sites will be signed in May 2007. FOST is scheduled for September 2007. Property Transfer is scheduled for September 2007.

Phase VI Property Transfer (385 Acres)
The Phase VI Parcels are underlain by the PDO OU 2 and 4 groundwater. The VOC contaminated groundwater originates from the DRMO Scrapyard (PDO OU 2) and OBP (PDO OU 4). Currently the OBP groundwater RI/FS is ongoing with additional groundwater sampling planned. It is felt that the groundwater results will show that the groundwater migrating from the OBP is not adversely affecting the groundwater downgradient of the DRMO Scrapyard. Therefore a remedy of MNA and Land Use Controls will allow the Phase VI Property to be transferred. Tentative schedule is for a ROD in the first half of 2008 with the Phase VI property transfer in December 2008.

Phase VII Property Transfer (40 Acres)
The Phase VII Parcels are underlain by the SE OU 3A VOC Contaminated groundwater. This OU is managed by the ER,A program. Final remedy needs to be selected before the property can be transferred. Currently the budgeted remedy is in-situ chemical oxidation. Tentative schedule for property transfer is June 2009.

Phase VIII Property Transfer (15 Acres)
The Phase VIII Parcel is underlain by the PDO OU 4 groundwater. The VOC contaminated groundwater originates from the OBP. Currently the groundwater RI/FS is ongoing with additional groundwater sampling planned. A remedy has to be selected for the OBP before the Phase VIII Parcel can be transferred. Currently an in-situ bioremediation remedy is budgeted; however the RI/FS needs to be completed before the definite remedy is selected. Tentative schedule is for a ROD in the first half of 2009 with the Phase VIII property transfer occurring in the August 2009.

Previous Studies

1980
- Installation Assessment of LEAD, LEAD, USATHAMA, 01/80

1981
- LEAD Groundwater Contamination, Groundwater, SE, PDO, SE, PDO, Berger Associates, 02/01/81
- Hazardous Waste Management Evaluation No. 37-26-0171-82, Waste Disposal/Sites, AEHA, 11/81

1983
- Eng. Report Study of Hazardous Discharges, LEAD, Waste Disposal/Sites, Mason and Hanger, 8/83
- Environmental Contamination Survey of LEAD SE Industrial Area, Waste Disposal/Sites, SE, SE AREA - DEPOT, Battelle, Pacific Northwest Laboratories, 09/83
- Environmental Contamination Survey, Waste Disposal/Sites, Battelle, Pacific Northwest Laboratories, 10/01/83
- Env. Cont. Survey, Exploratory, Confirmatory Phases, Waste Disposal/Sites, Battelle, Pacific Northwest Laboratories, 12/07/83

1984
- LEAD Remedial Investigation Feasibility Study, SE Area, Roy F. Weston, 02/01/84
- Env. Cont. Survey of LEAD Multiphase Investigation Summary, LEAD, Battelle, 05/01/84

1986
- Env. Contam. Monitoring at LEAD Final Report AOOA, PDO/SE Areas, Env. Science And Engineering, Inc., 01/13/86
- Remedial Investigation of the Disposal Area Final Report A00A, SE Area, Env. Science and Engineering, 08/86

1987
- Eval. of Report Solid Waste Management Units, LEAD, SI, AEHA, 2/87
- Geophysical Investigation of IWTP Area, Sites E and F, IWTP Lagoons, SE OU 11, 13, 131, Env. Science and Engineering, Inc., 05/01/87
- Geophysical Investigation of the Eastern Boundary, Vol. 1, SE Area, Env. Science and Engineering, Inc., 05/01/87
- Remedial Investigation of the Property Disposal Office (PDO) Area, PDO Area, PDO, PDO AREA - Depot, Env. Science and Engineering, Inc., 9/87
- Remedial Investigation of the Southeastern (SE) Area, SE Area, SE, SE AREA – DEPOT, Env. Science and Engineering, Inc., 12/01/87
- LEAD RCRA Monitoring Well Data (1987-1989), Groundwater, LEAD, 1987

Previous Studies

1988

- Endangerment Assessment of the Property Disposal Office Area, PDO Area, PD , PDO AREA - Depot, Env. Science and Engineering, Inc., 02/01/88
- RCRA Facility Assessment Phase I (SWMU Units), RCRA, A.T. Kearney, Inc. The Earth Technology Corp., 02/88
- RCRA Facility Assessment Phase II (SWMU Units), RCRA, A.T. Kearney, Inc. The Earth Technology Corp., 04/05/88
- Feasibility Study of the Property Disposal Office Area, PDO Area, PDO, PDO AREA – Depot, Env. Science and Engineering, Inc., 06/01/88
- Draft Groundwater Quality Assessment and Abatement Program, Groundwater, SE 3, SE 6, PDO 2, PDO 4, Env. Science and Engineering, Inc., 07/88
- Endangerment Assessment of the Southeastern (SE) Area, SE Area, SE, SE AREA – DEPOT, Env. Science and Engineering, Inc., 09/01/88
- Feasibility Study of the Southeastern Area 1st Operable Unit, SE OU 1, 3: K Area, SE Groundwater, SE 1, 52, Env. Science and Engineering, Inc., 09/01/88

1989

- LEAD Federal Facilities Interagency Agreement, LEAD, IAG, DEPOT WIDE, LEAD, PADER, EPA, 02/03/89
- GWQA Work Element Rationale & Assumptions, Groundwater, Hunter/ESE, 03/30/89
- Feasibility Study of Southeastern Area 2nd Operable Unit Volume 1, SE Area, SE 2, 74, 83, Hunter/ESE, 05/01/89
- Feasibility Study of Southeastern Area 2nd Operable Unit Volume 2, SE Area, SE 2, 74, 83, Hunter/ESE, 05/01/89
- Groundwater Treatment System, GWTS, SE 11, 13, 131, CarbonAir Services, 05/18/89
- IAG Progress Reports (1989), LEAD, IAG, DEPOT, LEAD, 1989

1990

- Site Investigation (SI), (Ammunition Storage Area), SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 01/90
- Electronic Metal Detection & Soil Vapor Survey - DRMO, PDO OU 1, 2: Soil, Groundwater, PDO 1; PDO 2, Princeton Testing, Inc., 1/90
- Site Specific Safety & Health Plan for SI (Ammo Area), SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 02/90
- Technical & Sampling/Analysis Plan for SI (Ammo Area), SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 04/01/90
- Site Investigation (SI) Field Logs (Ammo Area), SI, AA, 46, 50, 53, LEAD, 07/90
- Focused Feasibility Study of Accelerated Remedial Actions, PDO/SE Areas, USATHAMA, 08/01/90
- Public Involvement and Response Plan for LEAD, Community Relations, Hunter/ESE, 09/01/90
- Proposed Plans for SE and PDO Area under FFS Action, PDO/SE Areas, LEAD, USATHAMA, 09/19/90
- RI/FS Final Sampling Design Plan, Vol. 1 - 3, PDO/SE Areas, Env. Science and Engineering, Inc., 10/01/90
- Responses to EPA/PADER on the RI/FS Work Plan, PDO/SE Areas, Env. Science and Engineering, Inc., 12/90

Previous Studies

1991

- Pollution Abatement & Installation Restoration Program, LEAD, Science and Technology Corp., 01/91
- RI/FS Draft Management Plan, PDO/SE Areas, Env. Science and Engineering, Inc., 02/91
- RI/FS Briefing for LEAD, PDO/SE Areas, Env. Science and Engineering, Inc., 02/08/91
- RI/FS Accident Prevention and Safety Plan, PDO/SE Areas, Env. Science and Engineering, Inc., 04/91
- Final Proposed Plans PDO & SE Areas Operable Unit One, PDO/SE Areas, SE 1, PDO 1, LEAD, 05/91
- Public Meeting Transcript Proposed Plans under FFS, PDO/SE Areas, SE / PDO ??, Hughes, Albright, Foltz, & Natale Reporting, 05/14/91
- Record of Decisions for PDO and SE Area under FFS, PDO/SE Areas, SE / PDO ??, LEAD, 06/91
- Fire Training Pit Closure, Fire Training Pit, 63, International Technology Corp., 10/91
- Site Investigation and Assessment Report (Ammo Area) Vol. 1 - 3, SI, AA, 46, 50, 53, EA Engineering, Science, and Technology, Inc., 11/91

1992

- Draft Health Assessment for Letterkenny Army Depot (PDO & SE Area), PDO/SE Areas, SE & PDO, DEPOT WIDE, ATSDR, 1/92
- Defense Environmental Restoration Program - Annual Report FY 91, DERA, Department of Defense, 02/92
- Draft Final RCRA Closure Plan-Storage Area Near Fire Training Pit, Fire Training Pit, 63, WESTON, 04/92
- AEHA Risk Assess. # 39-26-L317-92, Offpost Resident Wells, PDO/SE Areas, Army Environmental Hygiene Agency, LEAD, 04/92
- Final Decision Document for Fireman's Training Pit Removal Action, Fire Training Pit, 63, LEAD, 06/92
- Inventory of Significant Ecological Features of LEAD, LEAD, The Nature Conservancy, 12/92
- "Environmental Issues" - LEAD Quarterly Cleanup Fact Sheets, LEAD, LEAD Env Restoration Br/LEAD Public Affairs Off., 4x's / YR

1993

- Public Health Assess Addendum for LEAD, Draft Fin, Public Release, PDO/SE Areas, ATSDR
- Remedial Investigation, PDO Area, Op. Units 1 & 2, Final Report, PDO OU 1, 2: Soil, PDO Groundwater, PDO 1; PDO 2, 24, 29, 77, 97, 103, Env. Sci. & Eng. (ESE), 1/93
- LEAD SWMU Site Investigation Follow-On Work Plan, SI Addendum, ERM, Inc., 2/93
- LEAD SWMU Site Investigation Follow-On, Health & Safety Plan, SI Addendum, ERM, Inc., 2/93
- Stormwater Pollution Plan For LEAD, LEAD, Versar, Inc., 3/93
- Phase I Envir. Site Assess. -Bldg. 56/Vehicle Storage Area, Waste Disposal/Sites, SE 8, Woodward-Clyde Co., 04/93

1993, continued

- Phase II Envir. Site Assess.- Bldg. 56/Vehicle Storage Area, Waste Disposal/Sites, SE 8, Woodward-Clyde Co., 04/93
- Public Health Assessment Addendum For LEAD, Final Rpt., PDO/SE Areas, Agency For Toxic Substance & Disease Registry, 5/93
- Risk Assessment of the PDO Area, Operable Units 1 & 2, Final Rpt., PDO OU 1, 2: Soil, PDO Groundwater, PDO 1; PDO 2, 24, 29, 77, 97, 103, Environmental Science and Engineering, Inc., 6/93
- Remedial Investigation SE Area, Op Units 1&3, Final Rpt. V. 1-8, SE Area, SE 1, SE 3, 52, 81, 94, ESE, 6/93
- LEAD SWMU Site Investigation Follow-On, Quality Assurance Plan, SI Addendum, ERM, Inc., 8/93
- RI/FS, PDO Area OU 3, 4: Quality Assurance Project Plan, PDO OU 3, 4, PDO 3; PDO 4, Versar, Inc., 10/93

1994

- Feasibility Study of PDO Area Op Units 1&2, Final Report, PDO OU 2; PDO Groundwater, PDO 1; PDO 2, 24, 69, 77, 97, 103, ESE, 02/94
- Feasibility Study of the Southeastern Area: OUs 1, 3, SE Area OUs 1 & 3, SE 1; SE 3, 52, 81, 94, Environmental Science & Engineering, Inc., 7/94
- Risk Assessment of the SE Area: OUs 1, 3. Vols 1 & 2, SE Area OUs 1 & 3, SE 1; SE 3, 52, 81, 94, Environmental Science & Engineering, Inc., 7/1994
- Technical Plan for RI, SE Area OUs 2 & 4-7, SE OU 2 & 4-7, SE 2; SE 4; SE 7, 32, 34, 72, 73, 74, 83, 80, 82, Fluor Daniel, Inc., 7/94
- Work Plan: RI/FS PDO Area OUs 3 & 4, PDO OU 3, 4, PDO 3; PDO 4, 64, 67, 70, 10, 78, Environmental Science & Engineering, Inc., 8/94
- Contam. Delineation, Water Tower Soils, LEAD, Soil, 10/94
- Emergency Removal of Water Tower Soils, Final Work Plan, Soil, Fluor Daniel Inc., 12/94

1995

- LEAD 1995 Installation Action Plan, LEAD, IAP, IAP, LEAD, 1/95
- SWMU Site Investigation Follow-On Report, SI, LEAD, 1/95
- Proposed Plan, PDO Area, Operable Unit 2, PDO OU 2: Groundwater, PDO 2, 69, 77, 97, 103, LEAD, 2/95
- Transcript of Public Meeting, PDO Area OU 2, March 29, 1995, PDO OU 2: Groundwater, PDO 2, 69, 77, 97, 103, LEAD, 3/95
- Admin Record File for Water Tower (Lead in Soils), PDO Area, LEAD, 1994-95
- Offpost Residential Wells Metals Assessment, PDO OU 4: Off-PDO Groundwater, PDO 2, 77, ESE, 6/95
- Carty Well Volatile Organic Compounds Contam. Assess., PDO OU 4: Off-PDO Groundwater, PDO 2, 69, ESE, 6/95
- PCB Release Report Assessment/Sampling Plan, LEAD, PDO OU 5, PDO 5, 98, 106, 107, CH2MHILL, 12/95

1996

- Removal Action, Water Tower Soils, LEAD, PDO Area, LEAD, 3/96
- Eng. Eval/Cost Analy., SE Area, OU2, Indus. Waste Sewer Sys. Soil, SE OU2: Industrial Sewers, SE 2, 74, 83, Fluor-Daniel, 4/96
- Analy. of Water Qual Data From Monitoring Wells at LEAD RCRA Site, IWTP Lagoons, US Geol. Survey, 5/96
- Phase I Env. Baseline Study for LEAD (BRAC 95) Vols. I-III, BRAC, SE 8, PDO 6, Weston, 8/96
- Emergency Delineation/Removal of Soils at the PDO Oil Burn Pit, PDO OU 4: Off-PDO Groundwater, PDO 4, 78, Weston, 10/96
- Technical Plan for Emergency Removal of Soils & Sediments at LEAD, SE Area, SE 4, 32, 34, 72, 73, Weston, 10/96

1997

- CERFA Letter Report, LEAD (BRAC), BRAC., Weston, 3/97
- EE/CA, SE Area OU 4, Stormwater Sewer & Drainage Way Sediments, SE OU 4, SE 4, 32, 34,72, 73, Fluor Daniel, 3/97
- SE Area OU-7, Truck Open Storage Area & Abandoned Septic Tank, SE OU 7 , SE 7, 80, 82, Fluor Daniel, Inc.
- Letterkenny Army Depot Phase I Parcels Proposed Plan, BRAC Phase I Parcels, SE 8, Roy F. Weston.

1998

- Final Envir. Assess for BRAC 95 Disposal & Reuse of Property at LEAD, BRAC 95 Disposal/ Reuse, US Army Material Command, 1/98
- Area of Concern (AOC) Decision Documents Phase I Parcels, Final Report, SE 8, Roy F. Weston, 4/98
- Final Termination Survey for Defense Logistics Agency Buildings, LEAD, DLA Radiation Survey, Roy F. Weston, 6/98
- Final Community Relations Plan, LEAD Community Relations Plan, SE & PDO Areas, DEPOT WIDE, Roy F. Weston, 8/98
- Historical Assessment of Radiological Activity at DLA Bldgs. at LEAD, RAD Assess. Of DLA bldgs. @ LEAD, Roy F. Weston, 8/98
- Final Termination Survey Report for Bldg. 6 and 9, Final Termination for Bldgs. 6/9, Roy F. Weston, 9/98
- Depot-Wide QAPP-Envir. Analy. to Support Invest. Remove/Disposal, Depot-Wide QAPP, Roy F. Weston, 9/98
- Remedial Investigation Report, Final RI, SE 2, 74, 83, Fluor Daniel, Inc., 09/98
- Finding of Suitability to Transfer (FOST) for Phase I Parcels @ LEAD, Final (FOST) Doc. – Phase I, Roy F. Weston, 10/98
- ROD for Phase I Parcels at LEAD, ROD Phase I Parcels, SE 8, Roy F. Weston, 9/98
- Final Termination Survey Report for Building 7 - LEAD, Final Termination Survey Bldg. 7, Roy F. Weston, 11/98
- Final Termination Survey Report for Building 8 - LEAD, Final Termination Survey Bldg. 8, Roy F. Weston, 11/98
- Final Termination Survey Report for Tank 913 - LEAD, Final Termination Survey – Tank 913, Roy F. Weston, 12/98

1998, continued

- BRAC Phase I Parcel AOC Decision Documents, Decision Document - AOC Phase I, Decision Documents, 12/98
- Finding of Suitability to Lease (FOSL) for Bldgs. 7,8, and 42 @ LEAD, Final (FOSL) Doc. – Bldgs. 7,8,& 42, SE 8, Roy F. Weston, 12/98

1999

- Final Termination Survey Report for Building 4, Final Termination Report, SE 8, Roy F. Weston, 01/99
- Final Termination Survey Report for Tank 815, Final Termination Report, SE 8, Roy F. Weston, 03/99
- Tech. Plan for Background Soil & Sediment Collection @ LEAD, Final Report, Roy F. Weston, 3/99
- Phase II Environmental Site Assessment Building 350 Park Area, Final Report for United Defense LP, URS Greiner Woodward Clyde, 05/99
- Final Termination Survey Report for Building 5, Final Termination Report, SE 8, Roy F. Weston, 05/99
- Addendum to Environmental Baseline Survey (LEAD BRAC 95 Action), Addendum – Final Report, SE & PDO Areas, Roy F. Weston, 05/99
- In Situ Chemical Oxidation Remediation Pilot Study of Bedrock Aquifer, Final Doc. Technical Plan, Roy F. Weston, 6/99
- Historical Assessment of Radiological Activity @ LEAD, Final Report - Rev 1, Roy F. Weston, 6/99
- Endangered Species Act of 1973 - Bio. Assessment Report (Bog Turtle), Addendum – Final Report, US Army Corps. of Engineers (Baltimore Dist.), 8/99
- Finding of Suitability to Lease (FOSL), Bldgs. 5, 52 and 56 @ LEAD, Final Report, SE 8, Roy F. Weston, 9/99
- Investigation of PCBs in the PDO Area, OU 5 @ LEAD, Final Report, PDO 5, 106, Roy F. Weston, 12/99

2000

- Phase II - Finding of Suitability to Lease (FOSL) @ LEAD, Final Report, SE 8, Roy F. Weston, 2/00
- Final Termination Survey Report for Bldg 441, Final Termination Report, SE 8, 116, 118, Roy F. Weston, 2/00
- Phase II FOSL Bldgs. 5, 5-2, 56 - Bldgs.7, 8, 42 - Bldgs. 6, 9, 19, 412, 416, 500, 522, 2291, Final Report, SE, Weston Solution, 03/00
- Final Termination Survey Report for Bldg 32, Final Termination Report, SE 8 or 7??, 80??, Roy F. Weston, 5/00
- Final Termination Survey Report for Bldg 33, Final Termination Report, SE 8 or 7??, 80??, Roy F. Weston, 5/00
- Final Termination Survey Report for Bldg 811, Final Termination Report, SE 8, Roy F. Weston, 5/00
- EE/CA Open Vehicle Storage Area Soils PDO 6 / SE 8 (Volume I and II), EE/CA Final Report, PDO 6; SE 8, Roy F. Weston, 06/00
- Supplement Invest. Summary Rpt. for SE OU 7 Truck Open Storage Area, Final Report , SE 7, 80, 82, Roy F. Weston, 07/0

2000, continued

- Decision Documents Former PCB Transformer Sites (SE Area OU 8) DSERTS LEAD-125, Final Report, SE 8, 125, Roy F. Weston, 10/00
- Supplement 1 to the Environmental Baseline Survey for LEAD BRAC 95 Action, Final Report, SE & PDO Areas, Roy F. Weston, 11/00
- Tech. Work Plan - Removal Action Dioxin-Contaminated Soils at (TOSA), Final Report, SE 8, AMDYNE Corporation, 12/00

2001

- Seasonally High Groundwater Determination for Phase 2 BRAC Parcels, Final Report, SE 8, EPSYS Corporation, 2/01
- Feasibility Study Report for Gate 1 Guardhouse, Bldg 511, SE area OU 8, Final Report, SE 8, Roy F. Weston, 2/01
- Proposed Plan for Phase II Parcels (LEAD), Final Report, SE 8, Roy F. Weston, 2/01
- Groundwater Vapor Intrusion Risk Assessment Phase I and II Parcels, Final Report, SE 8, Roy F. Weston, 2/01
- Remedial Investigation & Risk Assessment Report for Gate 1 Guardhouse, Final Report, SE 8, Roy F. Weston, 2/01
- Proposed Plan for Phase II Parcels (LEAD), Final Report, SE 8, Roy F. Weston, 2/01
- Enhanced Bioremediation Pilot Study (EBPS) SE OU 10, Final Report, SE 10, 101, 128, Roy F. Weston, 3/01
- Eng. Evaluation/Cost Analysis for lot 48 former Ingot Storage Area SEOU8, Final Report, SE 8, 60, Roy F. Weston, 4/01
- Asbestos Air Sampling Results for BRAC Bldg. PDO OU6 & SE OU8, Final Report, PDO 6; SE 8, Roy F. Weston, 4/01
- Final Termination Survey Report for Building S-331, Final Termination Survey Report, PDO 6, Roy F. Weston, 05/01
- Record of Decision for Phase II Parcels - LEAD, Record of Decision - Final, SE 8, Roy F. Weston, 7/01
- Removal Action Completion Report - Dioxin - Contaminated Soils at TOSA, Removal Action - RA, SE 7, 80, Amdyne Corporation, 08/01
- PDO 6 & SE 8 - Removal Action Completion Rpt PAH-Contaminated Soils & OVSA, Final Report, PDO; SE, IT Group, 9/01
- Five Year Review Report SE Area National Priorities List, Five Year Review SE Area (Final), SE Area, US Army Corps. of Engineers (Baltimore Dist.), 10/01
- Five Year Review Report (Addendum to Report) K Area Cap Inspection, Addendum K Area I Inspection (Final), SE Area, US Army Corps. of Engineers (Baltimore Dist.), 11/01
- Finding of Suitability to Transfer (FOST), for the Phase II BRAC Parcels, FOST for Phase II BRAC Parcels, SE 8, Roy F. Weston, 11/01

2002

- Report for the Tannin Pilot Surface Decontamination Study for Bldgs. 651 & 652, Final Report for the Tannin Pilot, PDO 6, Roy F. Weston, 01/02
- Background Soil and Sediment Sampling Results, Final Soil & Sediment Report, PDO 6; SE 8, Roy F. Weston, 01/02

2002, continued

- Evaluation of Recreational / Daycare Use for the Chapel / Gym Parcel - (PDO Area), Final Evaluation Report, PDO 6, Roy F. Weston, 01/02
- Planning Doc.- Removal Action Lead Contaminated Soils @ Lot 48 Ingot Storage, Final Planning Document, SE 8, 60, Amdyne Corporation, 04-02
- Remedial Invest. & Risk Assessment Rpt. for former Veh. Storage Area North of Test Track, Final RA / RA, PDO 6; SE 8, Roy F. Weston, 05/02
- Engineering Evaluation/Cost Analysis for the Former PDO Scrapyard, Final EE/CA, PDO 6, 66, 93, Roy F. Weston, 05/02
- Technical Plan for: BRAC Investigations in the SE OU 8, Final - Technical Plan, SE 8, 2,8,11,16,33,49,60,72,73,74,92,114,115,118,124,125,126, 130, Roy F. Weston, 05/02
- Final Termination Survey Report for Bldg. 14, Final - Termination Survey, SE 8, Weston Solution, 6/02
- Final Work Plan for Risk Assessment for PDO OU 5, Final Work Plan, PDO 5, Roy F. Weston, 08/02
- Land Use Control Assurance Plan - Memo. of Agreement for LEAD BRAC Phase 1 & 2, Final Report, SE 8, 21,27,110,114,116,119,123, Letterkenny Army Depot, 08/02
- LEAD - Long-Term Monitoring Efforts at PDO OU 2 4A and 4B, Final Document, PDO 2, 4A, 4B, 69,77,78,97, The IT Group, 08/02
- Remedial Investigation & Risk Assessment Report for 400 Series Fire Training Area, Final Report, SE 8, 118, Weston Solution, 09/02
- RI & RA (Fast Site N. Bldg. 532, PDO 6, Final RI/RA, PDO 6, 126, Weston Solution, 09/02
- RI & RA for Backwash Discharge Area, Final RI/RA, SE 8, 11, Weston Solution, 10/02
- Removal Action Completion Report - Bldgs. 651/652 Tannin Resin Removal, Final – Removal Action Report, PDO 6, 113, Cape Environmental, 10/02
- 2002 Finding of Suitability to Lease (FOSL), Final - 2002 FOSL, SE 8, 1, 2, Weston Solution, 10/02

2003

- Remedial Investigation & Risk Assessment Report for Bldg. 437(UST), Final Report, SE 8, 126, Weston Solution, 01/03
- Removal Action Completion Report - Lead - Contaminated Soils at Lot 48, Final Removal Action Report, SE 8, 60, Amdyne Corporation, 02/03
- Remedial Investigation (RI) and Risk Assessment - Open Vehicle Storage Area, Final Report, SE 8; PDO 6, 110,114, Weston Solution, 04/03
- Summary Report on the Groundwater Quality in the Southern Martinsburg Shale Region, Final report, SE 7; SE 13, 126,011,118, Weston Solution, 04/03
- Proposed Plan for Phase III Parcels, Final Report, SE 7;SE 8;SE 13;PDO 6, 126, 118, 011, 110, 114, Weston Solution, 04/03
- Focused Feasibility Study for the SE OU 10 (Conococheaue Drainage) Volumes I – XII, Final Report, SE 6; SE 10, Weston Solution, 08/03
- Finding of Suitability to Transfer (FOST) for the Phase III BRAC Parcels, Final Report, SE, Weston Solution, 08/03
- Record of Decision for Phase III Parcels, Final Report, SE, Weston Solution, 08/03

2003, continued

- SE OU 4 Stormwater Sewers and Associated Sediments Removal Action Summary Report, Final Report, SE 4, 72, SHAW Environmental, 09/03
- Depot Wide Quality Assurance Project Plan for Invest. Removal, Disposal activities at LEAD, Final Report, SE; PDO, Weston Solution, 10/03

2004

- Action Memorandum for LEAD Non-Contaminated Soil at the Former Scrapyard, Final Report, PDO, 66, 93, Weston Solution, 06/04
- RI & RA Report for the Former Transformer Area near Building 98 (SE OU 8), Final Report, SE 8, 125, Weston Solution, 07/04
- RI & RA for the Building 433 Locomotive Defueling Point & Underground Storage Tank, Final Report, SE 8, 118, Weston Solution, 08/04
- 2005 Installation Action Plan, Final Report, AA, PDO, SE, DEPOT WIDE, LEAD, 08/04
- RI and RA Report for Test Track and Areas E and F SE Area, Final Report, SE 8, 114, Weston Solution, 09/04
- RI and RA Report Building 16 and 17 (SE Area OU 8) - (Volumes 1 & 2), Final Report, SE 8, 92, Weston Solution, 09/04
- RI and RA Report for the Veh./Equip. Storage Area West of the Test Track (PDO area OU 6), Final Report, PDO 6, 110, Weston Solution, 10/04
- SE OU 4 Storm Water Sewer and Contaminated Sediments (Proposed Plan), Final Report, SE 4, 32, 34, 72, SHAW Environmental, 10/04
- Final Termination Survey Report for Building 51, Final Report, SE 8, 23, Weston Solution, 11/04
- RI and RA Report for SE Sediment Pile Area (SE Area OU 8), Final Report, SE 8, 73, Weston Solution, 11/04
- SE OU 2 Industrial Wastewater Sewers - Feasibility Study Report, Final Report, SE 2, 74, 83, IT Group, 11/04
- Engineering Evaluation/Cost Analysis for LEAD Contaminated Soil at the PDO Scrapyard, Final Report, PDO, 66, 93, Weston Solution, 12/04

2005

- Remedial Investigation (RI) and Risk Assessment (RA) Report for Tank Farm Storage Area, Weston Solutions, February 2005
- Remedial Investigation (RI) and Risk Assessment (RA) Report for Test Track Area, Weston Solutions, February 2005
- Proposed Plan for Conococheague Drainage System, SSIA (SE OU 10), Weston Solutions, February 2005
- Report for the Groundwater Site Investigation SE area OU 3B, Weston Solutions, May 2005
- Addendum to the Final FFS for SSIA OU 10, Conococheague Drainage, Weston Solutions May 2005
- Proposed Remedial Action Plan for Phase IV BRAC Parcels GW SE OU 3B & SE OU 8, Weston Solutions, May 2005
- Screening level Ecological Risk Assessment for SE Drainageways for BRAC Sites OU 8, Weston Solutions, May 2005

Previous Studies

- RI & RA Report for Former Vehicle Storage Area North of Test Track PDO OU 6 and SE OU 8, Weston Solutions, May 2005
- RI & RA Report for Bldg. T-228 Battery Acid Disposal Pit, Weston Solutions, August 2005

LETTERKENNY ARMY DEPOT

Base Realignment and Closure Program Parcel Phase IV Site Description

NOTE: **As the Final FY 06 IAP was going to print, due to mission changes and force protection issues the Army has entered into negotiations with the Letterkenny Industrial Development Authority to retain/reacquire 240 acres of previously declared excess property under BRAC 95. The 240 acres comprise portions of the Phase II, IV, VI, VII, and VIII transfers. The final results of these negotiations will be reflected in the FY 08 IAP.**

LEAD-016
Combat Vehicle Test Track (SE OU 3B)

SITE DESCRIPTION

Vehicle test track consists of a figure 8 shaped test track. Sludge from the IWTP was disposed inside the western most oval. The RI/FS has been completed and the findings showed that the site is suitable for unrestricted use.

Although this site was recorded as RC in the AEDB-R database, the Phase IV parcel ROD scheduled for Aug 2005 will document RC.

CLEANUP STRATEGY

The site will be transferred as part of the Phase IV transfer with no land use controls.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199710	200411

RC DATE: 200503

NOTE: The Combat Vehicle Test Track is one of the areas within the 240 acres that Letterkenny is planning to retain. It will not be transferred as part of the Phase IV Transfer.

LEAD-115
Tank Farm (SE OU 3B)

SITE DESCRIPTION

The tank farm consists of storage tanks originally fabricated to store petroleum. Tanks were purchased and modified for humidity controlled dry storage warehouses. The tanks were used for warehousing all kinds of items. Evidence of oil staining was noted. RI/FS sampling was conducted inside and outside of the storage tanks and no POL contamination was detected. The tanks have been demolished and recycled. The results of the soil investigation cleared the site for unrestricted use.

Although this site was recorded as RC in the AEDB-R database, the Phase IV parcel ROD scheduled for Aug 2005 will document RC.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198005	198006
SI	199711	199812
RI/FS	199903	200408

RC DATE: 200408

CLEANUP STRATEGY

The site will be transferred as part of the Phase IV transfer with no institutional controls.

LETTERKENNY ARMY DEPOT

Base Realignment and Closure Program Parcel Phase V Site Descriptions

LEAD-001
Building 57 (SE OU 8)

SITE DESCRIPTION

Building 57 was built in 1943 and constructed of brick and wood on a concrete foundation. The south half of Building 57 was used for vehicle maintenance; the north half was used for other maintenance activities. Building 57 South was used for storage and use of flammables, solvents (Safety Kleen), oils and lubricants. There is a vehicle wash rack at the southwest corner with an oil water separator that discharges to the IWTP. Building 57 North had a blast room for paint removal, a paint booth, and welding area. Solvents, paint, and petroleum products are also stored and used. The battery area where batteries were drained and stored is located inside and outside of the northwest corner of Building 57. Soil samples were taken around the washrack sump and the battery sump. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse. The RI/FS is currently under review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	197901	198001
SI	199710	199810
RI/FS	199903	200705

RC DATE: 200705

CLEANUP STRATEGY

The expected remedy is land use controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-002
Building 37 Cleaning Area (SE OU 8)

SITE DESCRIPTION

Building 37 was built in 1943 and is constructed of wood and brick on a concrete foundation. Many of the activities that occurred at this building were related to the reconditioning and repair of engines and transmissions used for wheeled vehicles. The north end contained transmission test cells, blast booths, and a dip tank area. The dip tank area is connected to the IWTP via a sump. The south end contained engine test cells and small parts cleaners. Various hazardous materials were used including paints, paint strippers, solvents, oil, and antifreeze. Soils samples were taken in the sump area and around the exterior of the building. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse. RI/FS is currently under review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199710	200705

RC DATE: 200705

CLEANUP STRATEGY

The expected remedy is land use controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-008
Building T-228 (SE OU 8)

SITE DESCRIPTION

The former Battery Shop was built in the 1940s and was demolished in March 1995. The battery shop site contained two drains: one outside and one inside the former building. A pipe leads to the outside drain and the outside drain has subsequently been sealed. Two trenches in the shape of an X were dug across the former sump and soil samples were taken from the trenches. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199710	200705

RC DATE: 200705

CLEANUP STRATEGY

The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-023
Building 51 Old Rad Storage Area (SE OU 8)

SITE DESCRIPTION

Building 51 was built in 1943 and is constructed of brick and wood on a concrete foundation. Building 51 is a warehouse used to store military equipment. Tritium containing items were segregated and stored in a room specifically constructed for those types of radiological items. Tritium room was constructed in 1990. During the 1960s some grinding of radium dials took place. Radiological survey sampling has been completed and survey report cleared the building for reuse (Final Termination Survey Report for Building 51, November 2004).
Although this site was recorded as RC in the AEDB-R database, the Phase V parcel ROD scheduled for Aug 2006 will document RC.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198603	198901
RI/FS	199710	200408

RC DATE: 200409

CLEANUP STRATEGY

Building 51 will be transferred in the Phase V transfer. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-060
Ingot Storage, Lots 29 and 48 (SE OU 8)

SITE DESCRIPTION

Ingot storage Lots 29 & 48 stored ingots of lead, nickel and zinc. IRA of lead-contaminated soil was completed at Lot 48 in 2002. Soil sampling has been completed at both sites. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse. The RI/FS report for Lot 48 has been completed and finalized. The RI/FS report for Lot 29 is under regulatory review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	199007
SI	199005	199501
IRA	200010	200208
RI/FS	199710	200705

RC DATE: 200705

CLEANUP STRATEGY

The RI/FS will be completed to establish that the storage lots are suitable for reuse. The expected remedy is institutional controls consisting of deed restrictions limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-073
Storm Water Sewer Solids (SE OU 8)

SITE DESCRIPTION

In the early 90s sediments were removed from stormwater sewers and staged at two locations until proper disposal. These two locations were checked to ensure that the storage of these sediments did not impact these two locations. Sampling was completed and the RI/FS report was completed. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse. Based on conclusions of RI reports site was closed out as RC in FY 04, however Phase V ROD will officially close out site.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198603	199309
IRA	199608	199706
RI/FS	199310	200409

RC DATE: 200409

CLEANUP STRATEGY

The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-092
Building 16 (SE OU 8)

SITE DESCRIPTION

This site is comprised of former industrial Buildings 15, 16, and 17. The buildings were demolished in the 70s and the current site condition is a concrete surface. Soils samples were taken under the concrete surface. Soil results exceeded residential standards for metals, but were acceptable for the proposed commercial/industrial reuse.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198601
SI	198001	198601
RI/FS	199710	200406

RC DATE: 200406

CLEANUP STRATEGY

The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-101
Building 37 Groundwater (SE OU 10)

SITE DESCRIPTION

In the early 90s the industrial sewer gravity lines from Building 37 were discovered to have many breaks and subsequently leaked their contents into the ground. The industrial sewer gravity lines were slip-lined in 1994 and 1995. Soil investigations in the early 90s did not discover any soil contamination around the sewer lines requiring removal, but monitoring wells showed trichlorethene in the groundwater. Pilot studies conducted in the late 90s as part of the FFS discovered that enhanced biodegradation using sodium lactate enhanced the breakdown of TCE into daughter products. The pilot study is still continuing with sodium lactate injections every six months. The FFS was finalized in 2003. The PP was completed in 2005. The ROD is scheduled to be completed in 2006.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater

Phases	Start	End
PA	198001	198012
SI	198001	198012
RI/FS	199310	200409

RC DATE: 200409

Conococheague Drainage: The source of the off-post VOC-contaminated groundwater has been identified as the former leaking IWWS serving Building 37 (OU 10). A full-scale enhanced bioremediation pilot study is underway and as of January 2005, five (5) injections of lactate have been completed.

CLEANUP STRATEGY

The ROD will be signed in 2006 and the remedy will be enhanced biodegradation. One more year (one injection) is scheduled for post ROD and then RA(O) will be conducted for five years (RA(O) funded under LEAD-128). This site will be transferred as part of the Phase V property transfer.

LEAD-118
Building 400 Series (SE OU 8)

SITE DESCRIPTION

Two sites required RCRA closures for unpermitted (exceeded 90 day storage) Hazardous Waste drum storage areas: Building 422 North and Building 433 West. Other areas investigated were Building 433 Locomotive Defueling Point and Storage Area West of Building 446. All reports are currently under regulatory review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	199509	199608
SI	199710	199904
RI/FS	199905	200705

RC DATE: 200705

CLEANUP STRATEGY

The investigation reports and RCRA Closure reports will be completed as part of RCRA/CERCLA integration. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, 118, and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-126
COMP UST/AST (BRAC OU'S)

SITE DESCRIPTION

Former UST sites are undergoing investigations at Building 425. USTs were removed at Building 425 (former gas station) but no PADEP closure approval letter exists.

STATUS

REGULATORY DRIVER: RCRA I

RRSE: NE

PROGRAM: Compliance

CONTAMINANTS OF CONCERN: POL, Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
ISC	199509	199608
INV	199707	199812
CAP	199903	200705

RC DATE: 200705

CLEANUP STRATEGY

The RI/FS will be completed to clear areas for reuse. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, 118, 126 and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-127
Industrial Sewer Soils - BRAC (SE OU 8)

SITE DESCRIPTION

IWWS lines have broken and leaked in the past. Integrity testing to determine specific leakage locations at Buildings 37 and 57 and along the force main has been completed.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199710	200705

RC DATE: 200705

CLEANUP STRATEGY

The RI/FS (soil sampling) will be completed to clear areas for reuse. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, 118, 126, 127 and 130. Five-year review costs are covered under IRP site LEAD-076.

LEAD-128
SE Groundwater – BRAC (SE OU 10)

SITE DESCRIPTION

This covers all of the BRAC groundwater in the SE Area, including on-post and off-post residential wells and springs. Currently the PP and ROD are being developed for the SE OU 10 groundwater, Building 37. Proposed remedy is in situ biodegradation using sodium lactate. RA(O) of the remedy will be managed under this site. RA was funded under LEAD-101 in FY04.

CLEANUP STRATEGY

One year of additional treatment will be completed in FY06 (funded under LEAD-101). RA(O) of five on-post wells, two residential wells and Hawbaker Spring. Sampling at these locations three times/year for five years. The SE OU 10 ROD documents this site.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198603	199001
RI/FS	199301	200501
RA(C)	200502	200506
RA(O)	200509	201105

RIP DATE: 200509
RC DATE: 201105

LEAD-130
Buildings S 38-1 & S 38-2 (SE OU 8)

SITE DESCRIPTION

These buildings were formerly used to store corrosives including acetic, hydrochloric, and chromic acid. The buildings have since been demolished and the foundations remain. Sampling has been completed and a RI/FS report is under regulatory review. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	199508	199608
SI	199609	199612
RI/FS	199701	200705

RC DATE: 200705

CLEANUP STRATEGY

The RI will be completed to clear areas for reuse. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase V property transfer (June 2008). This site will be closed out under the Phase V Parcel ROD, which includes sites LEAD-001, 002, 008, 023, 060, 073, 080, 082, 092, 118, 126, 127 and 130. Five-year review costs are covered under IRP site LEAD-076.

LETTERKENNY ARMY DEPOT

Base Realignment and Closure Program Parcel Phase VI Site Descriptions

<u>NOTE:</u> As the Final FY 06 IAP was going to print, due to mission changes and force protection issues the Army has entered into negotiations with the Letterkenny Industrial Development Authority to retain/reacquire 240 acres of previously declared excess property under BRAC 95. The 240 acres comprise portions of the Phase II, IV, VI, VII, and VIII transfers. The final results of these negotiations will be reflected in the FY 08 IAP.

LEAD-026
Pesticide Control Building (2325) (PDO OU 6)

SITE DESCRIPTION

Building 2325 was the former pesticide storage building. The building contains a large sink and shower area. A mixing area was located east of the building on a bermed pad. Previous studies conducted in the early 1980s found no pesticides in the groundwater. Soil sampling has been completed and the RI/FS will be produced.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Pesticides, Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199710	200804

RC DATE: 200804

CLEANUP STRATEGY

The RI/FS will address the contaminants of concern at the property for use by the Chambersburg Area School District. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 111, 112, 113, 117, and 129.

LEAD-037
Landfill 3(52-56), Sandbag Rd Pad 5 (PDO OU 6)

SITE DESCRIPTION

This Landfill was formerly used as a construction debris landfill and eventually covered for use as a storage area. Items buried included construction debris, roofing paper, bricks, drums, etc. The Landfill surface was then used for storage of non-hazardous drums during the late 1980s and early 1990s. At the conclusion of the non-hazardous drum storage phase, non-treated scrap wood was stored there until 2002. The scrap wood was removed in the Fall of 2002. The soil investigation was completed in 2003. One hot spot of 1,1,1-trichloroethane was detected within the landfill soil. Soil results exceeded residential standards, and it is anticipated that soil results will be acceptable for the proposed commercial/industrial reuse. A hot spot removal action was completed in 2005. The RI/FS and Risk Assessment are currently underway and anticipated complete in October 2007.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: VOCs, Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
IRA	200501	200512
RI/FS	199710	200804

RC DATE: 200804

CLEANUP STRATEGY

The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. Five-year review costs are covered under IRP site LEAD-029. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 111, 112, 113, 117, and 129.

LEAD-040
Open Trench Landfill ADJ to TBR (PDO OU 6)

SITE DESCRIPTION

This Landfill is located south of the Transfer Burning Revetments (TBR). The Landfill operated until the late 1970s. Items buried in the landfill include periscopes, fluorescent light tubes, and empty cans including pesticides, solvents, and paints. VOC-contaminated groundwater has been discovered downgradient from the landfill. Soil sampling has been completed. The RI/FS report is under production, and also includes LEAD-044 and 048 (May 2007).

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199603	200804

RC DATE: 200804

CLEANUP STRATEGY

The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. The five-year review will be funded under IRP site LEAD-029. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 111, 112, 113, 117, and 129.

LEAD-044
Revetted Area North of Burning Pits (PDO OU 6)

SITE DESCRIPTION

This area is located north of TBR. The site was used to store drums of solvents prior to off-site disposal by a private contractor. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse. The RI/FS report is under production, and also includes LEAD-040 and 048. Report is due in May 2007.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199710	200804

RC DATE: 200804

CLEANUP STRATEGY

The RI/FS will be completed to clear the area for reuse. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. Five-year review costs are covered under IRP site LEAD-029. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 111, 112, 113, 117, and 129.

LEAD-048
Transfer/Burning Revetments (PDO OU 6)

SITE DESCRIPTION

TBR were used for open burning of uncontaminated trash. Open burning was halted in the early 80s. The pits were then used for storing scrap wooden crates and pallets and a section stored empty paint cans. Paint cans were properly disposed of in the early 90s. The wood was removed and composted in 2002. Currently the site surface is covered with decomposing wood and one revetment contains a burnt ash pile. Soil sampling was completed in 2003 and groundwater sampling is ongoing. The RI/FS report is under production, and also includes LEAD-040 and 044 (Report is due in May 2007).

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199710	200804

RC DATE: 200804

CLEANUP STRATEGY

The RI/FS will be completed to clear this area for reuse and determine if this site is the source of groundwater contamination. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. The five-year review will be funded under IRP site LEAD-029. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 111, 112, 113, 117, and 129.

LEAD-093
Old PDO Scrapyard (PDO OU 6)

SITE DESCRIPTION

This scrapyard was the old location for the PDO Scrapyard that was used during the 50s and 60s. The site is approximately ten acres. Five acres are contaminated with lead and littered with scrap metal, glass, shredded tires and burnt debris. The IRA for lead contaminated soils was completed in 2005.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	198602	199501
IRA	200307	200512
RI/FS	199710	200804

RC DATE: 200804

CLEANUP STRATEGY

Confirmation sampling will be used to complete the RI/FS and Risk Assessment in 2007. The RI/FS will address the contaminants of concern at the property for use by the Chambersburg Area School District. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 111, 112, 113, 117, and 129.

LEAD-110
Vehicle Open Storage Area, PDO Area (PDO OU 6&7)

SITE DESCRIPTION

After WWII large spaces of Letterkenny were used to store vehicles. Vehicles were stored with POLs and antifreeze. Investigations were conducted to clear parcels where the vehicle storage occurred. Multiple parcels were sampled at various times depending on availability of parcel for sampling. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	199710	199903
IRA	199909	200012
RI/FS	199903	200407

RC DATE: 200409

CLEANUP STRATEGY

Five-year review costs are covered under IRP site LEAD-029. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 110, 111, 112, 113, 117, and 129.

LEAD-111
Fagan's Quarry (PDO OU 6)

SITE DESCRIPTION

This quarry is located at the corner of Pennsylvania Avenue and South Patrol Road. The quarry was in existence prior to the creation of LEAD. Letterkenny used the quarry as a construction debris landfill. The landfill contains roofing shingles/paper, railroad ties, bricks, burnt debris, and ash.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198001	198602
SI	199710	199812
RI/FS	199903	200804

RC DATE: 200804

CLEANUP STRATEGY

Fagan's Quarry is part of the RI/FS that is being completed for the Chambersburg School District Parcel. Included in this RI/FS are the Old PDO Scrapyard (LEAD-093) and the Old Pesticide Building (LEAD-026). The RI/FS is expected to be finalized in 2007. Institutional controls will be placed on the old quarry preventing any intrusive activities. Five-year review costs are covered under IRP site LEAD-029. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 110, 111, 112, 113, 117, and 129.

LEAD-112
Ammunition Drum Pads (PDO OU 6)

SITE DESCRIPTION

The Ammo drum pad was used to store Hazardous Waste (HW) drums. However, the pad was not permitted as a RCRA storage pad and the HW drums were stored for a period greater than 90 days. The Ammo Drum Pad is located on Letterkenny retained property but a drain from the pad migrates onto BRAC property.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	199509	199609
SI	199710	199903
RI/FS	199903	200804

RC DATE: 200804

CLEANUP STRATEGY

A RI/FS is underway on the pad and land adjacent to the pad. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 110, 111, 112, 113, 117, and 129.

LEAD-117
Building 683/Public Works (PDO OU 6)

SITE DESCRIPTION

The areas under this site include Building 683 storage area and storage pad, vehicle wash area, and road tar storage area. The Building 683 storage area and pad were used to store Hazardous Waste drums for greater than 90 days. The 683 storage area and pad were not permitted under RCRA for greater than 90-day storage, so a RCRA closure is being completed for the area and pad. All samples have been taken and reports are being produced. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	199509	199608
SI	199711	199905
RI/FS	199906	200804

RC DATE: 200804

CLEANUP STRATEGY

The RI/RCRA closure report is undergoing regulatory review and approval. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase VI property transfer. This site will be closed under the Phase VI parcel ROD (April 2008) which includes sites LEAD-026, 037, 040, 044, 048, 059, 093, 110, 111, 112, 113, 117, and 129.

LEAD-129
HW Storage Areas 675, 676, 696 (PDO OU 6)

SITE DESCRIPTION

Pads 675, 676, and 696 were the official Part B permitted RCRA hazardous waste storage areas for Letterkenny. RCRA closures were required to close out these sites. Sampling has been completed and RCRA closure reports are being prepared. Soil results exceeded residential standards, but were acceptable for the proposed commercial/industrial reuse.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: Low

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
RFA	197901	198001
CS	199609	199812
RFI/CMS	199903	200804

RC DATE: 200804

CLEANUP STRATEGY

RCRA closure reports will be submitted to the regulators in May 2006. The expected remedy is institutional controls consisting of deed restriction limiting to industrial/commercial reuse. This site will be transferred as part of the Phase VI property transfer.

LETTERKENNY ARMY DEPOT

Base Realignment and Closure Program Parcel Phase VIII Site Descriptions

NOTE: **As the Final FY 06 IAP was going to print, due to mission changes and force protection issues the Army has entered into negotiations with the Letterkenny Industrial Development Authority to retain/reacquire 240 acres of previously declared excess property under BRAC 95. The 240 acres comprise portions of the Phase II, IV, VI, VII, and VIII transfers. The final results of these negotiations will be reflected in the FY 08 IAP.**

LEAD-010
Oil Burning Pit (PDO OU 4)

SITE DESCRIPTION

Former OBP used for fire training purposes. OBP located at intersection of Georgia Avenue and Scale House Road, just north of Transfer Burning Pits. Used solvents and oils used to be dumped into OBP and set afire for fire training purposes. Soils and underlying groundwater were contaminated with solvents primarily 1,1,1-trichloroethane. Other VOCs include trichloroethene and 1,4-dioxane. Interim soil RA was completed in 1998 using chemical oxidation. One small, shallow area of soil with elevated TCE contamination still remains. The findings of the RI/FS will determine if any additional work is required to address the TCE contamination.

Initially, it was thought that the groundwater plume migrated north back into Army retained property. However, groundwater sampling conducted in 2003 and 2004 revealed that groundwater contamination also migrates southwest into PDO OU 2 (property transfer area). Currently groundwater sampling is underway to delineate dense non-aqueous phase liquid zone and depth, and to identify the extent of VOC contamination. Open Trench Landfill (LEAD-040) and Transfer Burning Pits (LEAD-048) are located just south of the OBP. The groundwater sampling was designed to take into consideration the locations of LEAD-040 and 048 as part of conceptual site model development. Four additional monitoring wells were installed in FY05 south of the shale limestone interface and north of the DRMO Scrapyard to further delineate the plume.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

PROGRAM: IR

CONTAMINANTS OF CONCERN: Metals, VOCs

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
PA	198001	198602
SI	198001	198602
RI/FS	199704	200904
IRA	199705	199906
RD	200902	200908
RA(C)	200909	201003
RA(O)	200909	201409
LTM	201409	202005

RIP DATE: 201003
RC DATE: 201409

CLEANUP STRATEGY

The groundwater investigation is currently funded with prior year dollars. Due to the new groundwater results showing contamination southwest across the divide into PDO OU 2, a RA will likely be required. Additional groundwater monitoring will be conducted though FY06 to further develop the conceptual site model. The Army is considering enhanced in situ biodegradation for unsaturated bedrock and groundwater. This site will be transferred as part of a future phase of property transfer (2009), Phase VIII.

BRAC No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
LEAD-011	Building 554 Water Treatment Plant	Results of the investigation did not warrant any additional action and the property was cleared for transfer. This property was transferred without restriction in January 2004 as part of the Phase III Property Transfer.	200209
LEAD-012	Building 2326 MSTP	Environmental Baseline Study Addendum completed in May 1999 concluded that no investigations were necessary to environmentally clear the property. Earth Tech currently operates the sanitary sewage plant on behalf of the Franklin County General Authority. The sewage treatment plant will be transferred as part of the Phase VI property transfer. The timeframe for transfer is estimated in December 2008.	199905
LEAD-021	Building 431 Cal Lab	At the conclusion of the lease with LIDA, TMDE will conduct a radiation survey and any subsequent required cleanup in conjunction with closing the Nuclear Regulatory Commission license, prior to returning building 431 to LIDA. The property was transferred in May 2002 as part of the Phase II Property Transfer. Building 441 was then leased back to the DoD to continue the TMDE operations.	199407
LEAD-027	Dock 45 Spill of Malathion	The results of the investigations did not reveal any detections of Malathion. The results of the investigation environmentally cleared the area for transfer. Dock 45 was transferred without restrictions in November 1998 as part of the Phase I Property Transfer.	199807
LEAD-034	Storm Water Outfall, Conococheague	A removal action was conducted in 1997. Sediments contaminated with metals, PCBs and POL were excavated and properly disposed. The outfall will be transferred as part of Phase V property transfer in December 2006. This site will be closed under LEAD-072 (SE OU 4).	199705
LEAD-055	Transformer Pad	The results of the investigation did not find any elevated levels of PCBs that would require cleanup or any land use restrictions. The transformer pad was subsequently dismantled 1999 after the completion of the electrical distribution upgrade. This area will be transferred as part of the Phase V property transfer in December 2006.	199501

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
LEAD-059	Waste Storage Areas, Pads 1, 2, 3, and 4	In the early 90s at the conclusion of the storage period RCRA closures were completed for Pads 2, 3 and 4 on November 10, 1994. Pad 1 underwent a building upgrade and became a permitted hazardous waste storage pad known as Building 676 (LEAD-129). This area will be transferred as part of the Phase VI property transfer. Timeframe for transfer is estimated in December 2008.	198012
LEAD-063	Firemen's Training Area (1983)	The concrete pit was broken up, excavated and disposed of along with some underlying stained soil as residual waste. Admin record document LKD.RT-068, "Final DD for Fireman's Training Pit Removal Action". This area will be transferred as part of the Phase VI property transfer. Timeframe for transfer is estimated in December 2008.	199209
LEAD-066	Buried Drum Site #2	The Buried Drum Site has been administratively closed out while the larger Old PDO Scrapyard area is currently under RI. A soil removal action address lead contamination is scheduled for summer 2005. Once the area is cleared it will be transferred as part of the Phase VI property transfer. Timeframe for transfer is estimated in December 2008.	199501
LEAD-078	Groundwater Divide (Monitoring Well 81-5)	This site is being administratively addressed and funded under LEAD-010.	200409
LEAD-080	Storage Area Near Building 32/33	The septic tank and contents was removed in March 1997 and a soil investigation was conducted in the leach field. The results of the soil investigation did not require any soil removal. A subsequent soil investigation was conducted on an area of concern located outside of the septic leach field. This area of concern contained black soils that displayed burnt residues. The soil results revealed elevated levels of dioxins within the area of black soils. In December 2000 soil removal was completed on the black soils. Admin Record Document LKD.RT-212, "Removal Action Completion Report, Dioxin-Contaminated Soils at Truck Open Storage Area". This area will be transferred without industrial action as part of the Phase V property transfer in December 2006.	200108
LEAD-082	Waste Oil	The septic tank and contents was removed in	200108

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
	Sumps	March 1997 and a soil investigation was conducted in the leach field. The results of the soil investigation did not require any soil removal. A subsequent soil investigation was conducted on an area of concern located outside of the septic leach field. This area of concern contained black soils that displayed burnt residues. The soil results revealed elevated levels of dioxins within the area of black soils. In December 2000 soil removal was completed on the black soils. Admin Record Document LKD.RT-212, "Removal Action Completion Report, Dioxin-Contaminated Soils at Truck Open Storage Area". This area will be transferred without industrial action as part of the Phase V property transfer in December 2006.	
LEAD-089	PDO Playground Soil	An emergency soil removal was completed in March 1995. Admin Record Document - LKD.RT-116, "Removal Action, Water Tower Soils, LEAD". This property was transferred in January 2004 as part of the Phase III property transfer.	199506
LEAD-090	Hawbaker Spring	The VOC contaminated groundwater remedy for this site will be handled under active site Building 37 Groundwater (LEAD-101). The LTM for Hawbaker Spring will be covered under LEAD-128.	200303
LEAD-091	Dozens Spring	The VOC contaminated groundwater remedy for this site will be handled under active site Building 37 Groundwater (LEAD-101). The LTM for Hawbaker Spring will be covered under LEAD-128.	200303
LEAD-095	Chambers Spring	The VOC contaminated groundwater remedy for this site will be handled under active site Building 37 Groundwater (LEAD-101). The LTM for Hawbaker Spring will be covered under LEAD-128.	200303
LEAD-100	Building 12	Any contaminated groundwater remedy will be handled under SE OU 10, Building 37 Groundwater (LEAD-101).	200203
LEAD-103	Old Pumping Wells Rocky Spring – PDO OU 2	This site is being administratively addressed and funded under LEAD-010, PDO OU 4.	200503
LEAD-113	Buildings 651 & 652	The exterior of the building was sampled for tannin and determined to be clean. The property will be transferred as part of the	200206

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
		Phase VI transfer. Timeframe for transfer is estimated in December 2008.	
LEAD-114	Vehicle Open Storage Area, SE Area	The open vehicle storage area was transferred in January 2004 as part of the Phase III property transfer. The former vehicle storage area will be transferred as part of the Phase IV property transfer in December 2005. The open vehicle storage area RA action was completed in 2001.	200303
LEAD-116	Building 441, Rad Storage	A radiation survey was conducted in accordance with the Nuclear Regulatory Commission license in 1998. The radiation survey cleared the building for reuse by LIDA. Building 441 was transferred in May 2002 as part of the Phase II property transfer.	200003
LEAD-119	RR Tracks	A soil investigation was conducted in 1997. Soil results did not warrant any corrective action. The railroad tracks were transferred in November 1998 as part of the Phase I Property Transfer.	199806
LEAD-123	Comp Rad Sources, Tritium	In accordance with the Nuclear Regulatory Commission license surveys were conducted at the following buildings: 4, 5, 6, 7, 8, 9, 14, 32, 33, S-331, and Storage Tanks 811, 815 and 913. None of the surveys required any corrective actions. A majority of the buildings have transferred as part of the first three phases of property transfer. The remaining buildings will be transferred as part of the Phase V transfer in December 2006.	200102
LEAD-124	Comp Asbestos	The results of the air surveys showed that there were no unacceptable levels of asbestos in the indoor air. A majority of the buildings have been transferred with the first three property transfers. The remaining buildings are under lease and will be transferred as part of the Phase V or VI transfers.	200107
LEAD-125	Comp PCB	The results of the sampling effort did not warrant any corrective action. A majority of the buildings have been transferred in the Phase II property transfers. The remaining buildings are under lease and will be transferred as part of the Phase V transfer in December 2006.	200107

Initiation of BRAC Program: 1996

Past Phase Completion Milestones for IRP, MMRP and Closure Related Compliance:

1980

- LEAD-001 - PA - 1980/01
- LEAD-129 – PA - 1980/01
- LEAD-013 – PA - 1980/01
- LEAD-068 – PA - 1980/02
- LEAD-115 – PA - 1980/06
- LEAD-116 – PA - 1980/06
- LEAD-059 – PA - 1980/12
- LEAD-063 – PA - 1980/12
- LEAD-095 – PA - 1980/12
- LEAD-095 – SI - 1980/12
- LEAD-100 – PA - 1980/12
- LEAD-101 – PA - 1980/12
- LEAD-101 – SI - 1980/12
- LEAD-061 – PA - 1980/12
- LEAD-061 – SI - 1980/12
- LEAD-084 – PA - 1980/12
- LEAD-084 – SI - 1980/12
- LEAD-086 – PA - 1980/12
- LEAD-086 – SI - 1980/12
- LEAD-087 – PA - 1980/12
- LEAD-087 – SI - 1980/12
- LEAD-088 – PA - 1980/12
- LEAD-088 – SI - 1980/12
- LEAD-096 – PA - 1980/12
- LEAD-096 – SI - 1980/12
- LEAD-104 – PA - 1980/12
- LEAD-104 – SI - 1980/12

1986

- LEAD-091 - PA1986/01
- LEAD-091 - SI - 1986/01
- LEAD-092 - PA - 1986/01
- LEAD-092 - SI - 1986/01
- LEAD-103 - PA - 1986/01
- LEAD-103 - SI - 1986/01
- LEAD-068 - SI - 1986/01
- LEAD-071 - PA - 1986/01
- LEAD-071 - SI - 1986/01
- LEAD-097 - PA - 1986/01
- LEAD-003 - PA - 1986/02
- LEAD-003 - SI - 1986/02
- LEAD-004 - PA - 1986/02
- LEAD-004 - SI - 1986/02

1986, continued

- LEAD-005 - PA - 1986/02
- LEAD-005 - SI - 1986/02
- LEAD-006 - PA - 1986/02
- LEAD-006 - SI - 1986/02
- LEAD-007 - PA - 1986/02
- LEAD-007 - SI - 1986/02
- LEAD-009 - PA - 1986/02
- LEAD-009 - SI - 1986/02
- LEAD-002 - PA - 1986/02
- LEAD-002 - SI - 1986/02
- LEAD-008 - PA - 1986/02
- LEAD-008 - SI - 1986/02
- LEAD-010 - PA - 1986/02
- LEAD-013 - SI - 1986/02
- LEAD-015 - PA - 1986/02
- LEAD-010 - SI - 1986/02
- LEAD-011 - PA - 1986/02
- LEAD-011 - SI - 1986/02
- LEAD-017 - PA - 1986/02
- LEAD-017 - SI - 1986/02
- LEAD-018 - PA - 1986/02
- LEAD-018 - SI - 1986/02
- LEAD-019 - PA - 1986/02
- LEAD-019 - SI - 1986/02
- LEAD-020 - PA - 1986/02
- LEAD-020 - SI - 1986/02
- LEAD-012 - PA - 1986/02
- LEAD-016 - PA - 1986/02
- LEAD-016 - SI - 1986/02
- LEAD-022 - PA - 1986/02
- LEAD-022 - SI - 1986/02
- LEAD-021 - PA - 1986/02
- LEAD-021 - SI - 1986/02
- LEAD-023 - PA - 1986/02
- LEAD-024 - PA - 1986/02
- LEAD-024 - SI - 1986/02
- LEAD-025 - PA - 1986/02
- LEAD-025 - SI - 1986/02
- LEAD-026 - PA - 1986/02
- LEAD-026 - SI - 1986/02
- LEAD-027 - PA - 1986/02
- LEAD-027 - SI - 1986/02
- LEAD-034 - PA - 1986/02
- LEAD-034 - SI - 1986/02
- LEAD-028 - PA - 1986/02
- LEAD-028 - SI - 1986/02
- LEAD-029 - PA - 1986/02

1986, continued

- LEAD-029 - SI - 1986/02
- LEAD-030 - PA - 1986/02
- LEAD-031 - PA - 1986/02
- LEAD-031 - SI - 1986/02
- LEAD-032 - PA - 1986/02
- LEAD-032 - SI - 1986/02
- LEAD-033 - PA - 1986/02
- LEAD-033 - SI - 1986/02
- LEAD-037 - PA - 1986/02
- LEAD-037 - SI - 1986/02
- LEAD-040 - PA - 1986/02
- LEAD-040 - SI - 1986/02
- LEAD-035 - PA - 1986/02
- LEAD-035 - SI - 1986/02
- LEAD-036 - PA - 1986/02
- LEAD-036 - SI - 1986/02
- LEAD-044 - PA - 1986/02
- LEAD-044 - SI - 1986/02
- LEAD-048 - PA - 1986/02
- LEAD-048 - SI - 1986/02
- LEAD-038 - PA - 1986/02
- LEAD-038 - SI - 1986/02
- LEAD-039 - PA - 1986/02
- LEAD-066 - PA - 1986/02
- LEAD-073 - PA - 1986/02
- LEAD-078 – PA - 1986/02
- LEAD-041 - PA - 1986/02
- LEAD-041 - SI - 1986/02
- LEAD-078 - SI - 1986/02
- LEAD-080 - PA - 1986/02
- LEAD-080 - SI - 1986/02
- LEAD-082 - PA - 1986/02
- LEAD-082 - SI - 1986/02
- LEAD-090 - PA - 1986/02
- LEAD-049 - PA - 1986/02
- LEAD-049 - SI - 1986/02
- LEAD-050 - PA - 1986/02
- LEAD-051 - PA - 1986/02
- LEAD-052 - PA - 1986/02
- LEAD-052 - SI - 1986/02
- LEAD-090 - SI - 1986/02
- LEAD-093 - PA - 1986/02
- LEAD-110 - PA - 1986/02
- LEAD-111 - PA - 1986/02
- LEAD-127 - PA - 1986/02
- LEAD-127 - SI - 1986/02

1986, continued
- LEAD-128 - PA - 1986/02
- LEAD-065 - PA - 1986/02
- LEAD-067 - PA - 1986/02
- LEAD-069 - PA - 1986/02
- LEAD-070 - PA - 1986/02
- LEAD-070 - SI - 1986/02
- LEAD-072 - PA - 1986/02
- LEAD-074 - PA - 1986/02
- LEAD-076 - PA - 1986/02
- LEAD-077 - PA - 1986/02
- LEAD-079 - PA - 1986/02
- LEAD-079 - SI - 1986/02
- LEAD-081 - PA - 1986/02
- LEAD-083 - PA - 1986/02
- LEAD-083 - SI - 1986/02
- LEAD-094 - PA - 1986/02
- LEAD-098 - PA - 1986/02
- LEAD-098 - SI - 1986/02
- LEAD-105 - PA - 1986/02
- LEAD-105 - SI - 1986/02
- LEAD-106 - PA - 1986/02
- LEAD-106 - SI - 1986/02
- LEAD-107 - PA - 1986/02
- LEAD-107 - SI - 1986/02
- LEAD-131 - PA - 1986/02
- LEAD-097 - SI - 1986/03
- LEAD-020 - RI - 1986/09
- LEAD-022 - RI - 1986/09
- LEAD-031 - RI - 1986/09

1987
- LEAD-069 – SI - 1987/01
- LEAD-013 – RI - 1987/08
- LEAD-063 – RI - 1987/09

1988
- LEAD-062 - PA - 1988/01

1989
- LEAD-023 - SI - 1989/01
- LEAD-100 – SI - 1989/02
- LEAD-077 – SI - 1989/02
- LEAD-081 – SI - 1989/02
- LEAD-094 – SI - 1989/02
- LEAD-131 – SI - 1989/02
- LEAD-013 – RD - 1989/09

1990
- LEAD-024 -RI - 1990/01
- LEAD-128 - SI - 1990/01
- LEAD-072 - SI - 1990/01
- LEAD-014 - PA - 1990/07
- LEAD-042 - PA - 1990/07
- LEAD-043 - PA - 1990/07
- LEAD-045 - PA - 1990/07
- LEAD-046 - PA - 1990/07
- LEAD-047 - PA - 1990/07
- LEAD-053 - PA - 1990/07
- LEAD-054 - PA - 1990/07
- LEAD-056 - PA - 1990/07
- LEAD-056 - SI - 1990/07
- LEAD-057 - PA - 1990/07
- LEAD-057 - SI - 1990/07
- LEAD-058 - PA - 1990/07
- LEAD-058 - SI - 1990/07
- LEAD-055 - PA - 1990/07
- LEAD-060 - PA - 1990/07
- LEAD-063 - RD - 1990/10
- LEAD-063 - RAC - 1990/12

1991
- LEAD-064 - PA - 1991/01
- LEAD-014 – SI - 1991/05
- LEAD-015 – SI - 1991/05
- LEAD-043 – SI - 1991/05
- LEAD-045 – SI - 1991/05
- LEAD-047 – SI - 1991/05
- LEAD-054 – SI - 1991/05
- LEAD-051 – SI - 1991/08
- LEAD-067 – SI - 1991/10
- LEAD-030 – SI - 1991/11
- LEAD-064 – SI - 1991/12

1992
- LEAD-062 - IRA - 1992/04
- LEAD-052 – RI - 1992/07
- LEAD-013 – RAC - 1992/11
- LEAD-025 – RI - 1992/12

1993
- LEAD-052 - RD - 1993/03
- LEAD-035 – RI - 1993/06
- LEAD-076 – SI - 1993/06
- LEAD-073 – SI - 1993/09

1993, continued
- LEAD-074 – SI - 1993/09

1994
- LEAD-089 - PA - 1994/06
- LEAD-003 – RI - 1994/07
- LEAD-004 – RI - 1994/07
- LEAD-005 – RI - 1994/07
- LEAD-006 – RI - 1994/07
- LEAD-007 – RI - 1994/07
- LEAD-032 – RI - 1994/07
- LEAD-038 – RI - 1994/07
- LEAD-041 – RI - 1994/07
- LEAD-061 – RI - 1994/07
- LEAD-062 – RI - 1994/07
- LEAD-021 – RI - 1994/07
- LEAD-034 – RI - 1994/07
- LEAD-089 – SI - 1994/10
- LEAD-089 – RD - 1994/11

1995
- LEAD-039 – SI - 1995/01
- LEAD-042 – SI - 1995/01
- LEAD-046 – SI - 1995/01
- LEAD-050 – SI - 1995/01
- LEAD-053 – SI - 1995/01
- LEAD-065 – SI - 1995/01
- LEAD-055 – SI - 1995/01
- LEAD-060 – SI - 1995/01
- LEAD-066 – SI - 1995/01
- LEAD-093 – SI - 1995/01
- LEAD-089 – RAC - 1995/03

1996
- LEAD-071 – RI- 1996/05
- LEAD-082 – IRA - 1996/06
- LEAD-117 – PA - 1996/08
- LEAD-118 – PA - 1996/08
- LEAD-119 – PA - 1996/08
- LEAD-123 – PA - 1996/08
- LEAD-124 – PA - 1996/08
- LEAD-125 – PA - 1996/08
- LEAD-126 – PA - 1996/08
- LEAD-130 – PA - 1996/08
- LEAD-112 – PA - 1996/09
- LEAD-113 – PA - 1996/09
- LEAD-114 – PA - 1996/09

1996, continued
- LEAD-032 – IRA - 1996/11
- LEAD-130 – SI - 1996/12

1997
- LEAD-034 – IRA - 1997/05
- LEAD-073 – IRA - 1997/06
- LEAD-074 – IRA - 1997/08
- LEAD-083 – IRA - 1997/08
- LEAD-105 – IRA - 1997/09
- LEAD-052 – RAC - 1997/11

1998
- LEAD-027 - RI - 1998/05
- LEAD-119 – SI - 1998/05
- LEAD-001 – SI - 1998/10
- LEAD-111 – SI - 1998/12
- LEAD-113 – SI - 1998/12
- LEAD-115 – SI - 1998/12
- LEAD-116 – SI - 1998/12
- LEAD-126 – SI - 1998/12
- LEAD-129 – SI - 1998/12

1999
- LEAD-114 – SI - 1999/01
- LEAD-110 – SI - 1999/03
- LEAD-112 – SI - 1999/03
- LEAD-118 – SI - 1999/04
- LEAD-012 – SI - 1999/05
- LEAD-117 – SI - 1999/05
- LEAD-010 – IRA - 1999/06
- LEAD-116 – RI - 1999/10

2000
- LEAD-064 – RI - 2000/02
- LEAD-067 – RI - 2000/02
- LEAD-070 – RI - 2000/02
- LEAD-106 – IRA - 2000/05
- LEAD-125 – SI - 2000/10
- LEAD-110 – IRA - 2000/12
- LEAD-114 – IRA - 2000/12
- LEAD-123 – SI - 2000/12

2001
- LEAD-080 – IRA - 2001/02
- LEAD-124 – SI - 2001/04
- LEAD-036 – IRA - 2001/08

2001, continued
- LEAD-080 – RI - 2001/08
- LEAD-082 – RI - 2001/08
- LEAD-100 – RI - 2001/12

2002
- LEAD-113 – IRA - 2002/03
- LEAD-113 – RI - 2002/04
- LEAD-011 – RI - 2002/07
- LEAD-060 – IRA - 2002/08

2003
- LEAD-090 – RI - 2003/01
- LEAD-091 – RI - 2003/01
- LEAD-095 – RI - 2003/01
- LEAD-114 – RI - 2003/03

2004
- LEAD-092 – RI - 2004/06
- LEAD-110 – RI - 2004/07
- LEAD-033 – RI - 2004/08
- LEAD-049 – RI - 2004/08
- LEAD-023 – RI - 2004/08
- LEAD-115 – RI - 2004/08
- LEAD-068 – RI - 2004/09
- LEAD-084 – RI - 2004/09
- LEAD-086 – RI - 2004/09
- LEAD-087 – RI - 2004/09
- LEAD-088 – RI - 2004/09
- LEAD-096 – RI - 2004/09
- LEAD-104 – RI - 2004/09
- LEAD-073 – RI - 2004/09
- LEAD-078 – RI - 2004/09
- LEAD-101 – RI - 2004/09
- LEAD-016 – RI - 2004/11

2005
- LEAD-128 – RI - 2005/01
- LEAD-009 – RI - 2005/03
- LEAD-069 – RI - 2005/03
- LEAD-094 – RI - 2005/03
- LEAD-097 – RI - 2005/03
- LEAD-098 – RI - 2005/03
- LEAD-105 – RI - 2005/03
- LEAD-106 – RI - 2005/03
- LEAD-103 – RI - 2005/03
- LEAD-072 – RI - 2005/07

2005, continued
- LEAD-128 – RAC - 2005/08
- LEAD-074 – RI - 2005/09
- LEAD-083 – RI - 2005/09
- LEAD-001 – RI - 2005/12
- LEAD-002 – RI - 2005/12
- LEAD-008 – RI - 2005/12
- LEAD-037 – IRA - 2005/12
- LEAD-060 – RI - 2005/12
- LEAD-093 – IRA - 2005/12

2006
- LEAD-118 – RI - 2006/04
- LEAD-126 – RI - 2006/04
- LEAD-127 – RI - 2006/04
- LEAD-130 – RI - 2006/04
- LEAD-036 – RI - 2006/08
- LEAD-039 – RI - 2006/09
- LEAD-053 – RI - 2006/09
- LEAD-026 – RI - 2006/12
- LEAD-037 – RI - 2006/12
- LEAD-093 – RI - 2006/12
- LEAD-111 – RI - 2006/12
- LEAD-112 – RI - 2006/12
- LEAD-117 – RI - 2006/12
- LEAD-129 – RI - 2006/12

Projected ROD/DD Approval Dates and Associated Sites:
- ROD - Phase V Parcels – 2006 (LEAD-001, 002, 008, 023, 060, 073, 092, 101, 115, 118, 126, 127, 128, 130)
- ROD - Phase VI Parcels – 2007 (LEAD-010, 026, 037, 040, 044, 048, 093, 110, 111, 112, 117, 129)

Projected Construction Completion Date of IRP: 2010

Schedule for Five Year Reviews: 20060915

Estimated Completion Date of Cleanup at Installation (including LTM Phase): 2020

General Natural and Cultural Resources Program and Other Cleanup Issues Schedule: N/A

LETTERKENNY BRAC SCHEDULE

(Based on current funding constraints)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
LEAD-010	RI/FS									
	RD									
	RA(C)									
	RA(O)									
	LTM									*202005*
LEAD-128	RA(O)									

Prior Years Funds

Total Funding up to FY04: $112,492K (this amount includes Active and BRAC)

FY05 BRAC Prior Year Funds

Site Information	Expenditures	FY Total
Interim Removal Action – Pad 5	$145K	
Investigation PDO OU 6	$235K	
Investigation SE OU 8	$90K	
FOST/FOSL	$360K	
RI/FS PDO OU 4, OBP	$350K	**$1,180K (BRAC)**

FY05 Active Prior Year Funds: **$1,795.1K**

Total Prior Year Funds: **$115,467.1K (Active + BRAC)**

Current Year (FY06) Requirements (Active)

Site Information	Requirements	FY Total
LEAD-010 - RI/FS	$366K	
LEAD-040 - RI/FS	$30K	
LEAD-044 - RI/FS	$25K	
LEAD-048 - RI/FS	$40K	
LEAD-093 - RI/FS	$40K	
LEAD-111 - RI/FS	$26K	
LEAD-128 - RA(O)	$30K	**$557K (BRAC)**

Total Future Requirements: **$893K (BRAC)**

Total IR Program Cost *(from inception to completion of the IRP):* **$116,917.1K (Active + BRAC)**

Community Involvement

The LEAD TRC was formed in 1988 to help keep the local community informed of the environmental cleanup efforts at LEAD and to provide a forum for cooperation between the depot and concerned local officials and citizens. The TRC membership represented a cross section of the community as well as Army and regulatory agencies. The TRC met several times a year to discuss ongoing and planned cleanup activities.

In May 1996, the LEAD TRC was expanded into a new citizen-government advisory panel called a RAB. DoD guidance states that a RAB must be established at all installations slated for downsizing or closure where property will be turned over to the local community under the BRAC process. A RAB is a citizen/government panel intended to bring together people who reflect the diverse interests within the community. The RAB members participate in the process by reviewing cleanup plans, exchanging information and ideas, and providing advice to government decision makers on environmental issues facing Letterkenny.

The Community Relations plan is currently being updated.

The RAB meetings are currently held once a quarter at 7:00 p.m. in LEAD Building 14's conference room. All RAB meetings are open to the public. The RAB has 13 members who are kept posted by articles in local newspapers and given access to all remediation reports. The current RAB members have not shown an interest in participating in the TAPP program.